Towards a Gamification Framework:

Limitations and opportunities when gamifying business processes

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Abstrakt

Under de senaste åren har gamification blivit alltmer förekommande i företags-sammanhang. Grundidén bakom gamification är att använda spel-element i icke-spel kontexter, med avsikt att motivera och engagera anställda. Dagens arbetsplats har genom åren genomgått en omfattande förändring, och i dagens organisationer förväntas anställda vara kreativa och använda sina entreprenöriska egenskaper för att bidra till organisationens företagsmål och affärsnytta. Enligt undersökningar speglar detta tyvärr inte dagens verklighet. Det rapporteras att så lite som 13% av alla anställda är engagerade i sitt arbete, och så mycket som 24% är aktivt likgiltiga till deras arbete. Det är alarmerande siffror som företag har försökt att motverka med hjälp av gamification, men det är få som lyckas. Denna studie presenterar genom en kvalitativ metod, begränsningar och möjligheter vid tillämpningen av gamification i företagssammanhang, och vilka faktorer som är avgörande för framgång. Studien syftar även på att undersöka hur organisationer kan gå tillväga för att hålla anställda motiverade på lång sikt. Vi kunde urskilja att det finns fyra huvudområden som utmärkte sig som bidragande faktorer: spelar types, spelarresan, motivation och utvärdering. Detta resulterade i att vi kunde urskilja vilka faktorer som främjar användarmål och vilka som främjar verksamhetsmål. Båda dessa aspekter ska bidra till att lösa organisatoriska problem och gynna företagsmål. För att lyckas med gamification måste man kunna motivera de anställda, men även bidra till affärsnytta. Vi identifierade att utvärderingsaspekten är en avgörande faktor för lyckad gamification och att bristen av forskning kring detta område kan utgöra en anledning till varför vissa misslyckas. Utifrån dessa framgångsfaktorer presenterar vi därefter ett ramverk, Enterprise Gamification Evaluation Framework, vars syfte är att fungera som ett stöd för implementation av gamification.

Preface

We would like to thank our mentor Dan Johansson at Umeå University for excellent guidance and support through this writing process. We would also like to thank our interview respondents for providing us with their time. We appreciate their great engagement and ambition to share their own experiences of gamification, and the valuable contribution of their thoughts and opinions.

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1.Introduction

In the past few years, gamification has emerged as a trend within the business and marketing sectors. Not only has the concept of gamification been acknowledged by enthusiasts in the field, it also gained interest from academics, educators and practitioners from a large variety of domains. (Seaborn & Fels, 2015)

The idea behind gamification is *"to capture some of the motivating power that game mechanics appear to have, and redirect them towards non-entertainment uses"* (Nelson, 2012, p. 23). The game industry successfully motivates people to play games without any kind of force or demand to do so, the players simply play games on the basis of their own profit in being entertained.

This abstract, but also very desirable, motivational force in us as individuals is what gamification is trying to obtain and make use of. Supporters of gamification believes that a similar motivational force as the one when playing games can be achieved in individuals when they are performing activities they do not consider entertaining. This by lifting out game mechanics from games and putting them in non-entertainment contexts. It is a dream scenario for many companies. The drive to discover a way to fulfill the ever longing desire to increase productivity, revenue, enhance staff motivation and performance, and make processes more effective. By using and taking advantage of this abstract motivational force and adopt gamification, companies may accomplish the effects noted above (Nelson, 2012).

However, gamification needs to be implemented and used in an adequate manner. Many organizations who are adopting gamification seem to believe that the concept will work as a silver-bullet. That the implementation of gamification automatically fix all the alarming problems they are facing concerning their staffs' motivational level, performance and productivity. It seems to exist an perception that if one sprinkle a little *gamification salt* over the organization, that all the problems will go away.

Gamification is not a silver bullet. The concept has a complex structure which involves the users to the highest extent. People do not behave as machines, they have their own motivational requirements, their own interests, and especially, they are not coherent. Their behaviours are hard to understand and difficult to predict. When gamification is implemented in enterprises the users tend to get forgotten, and the management are making decisions in the belief that they know their staff well enough to make the decisions for them. This is like playing with fire, and when it backfires, it backfires badly. In worst cases making the performance and motivational level even lower than before.

1.1 Purpose

The primary focus of this study is to identify limitations and opportunities when applying gamification in business processes. These are important issues because of the increasing number of companies adopting gamification or providing gamification services (Hamari, Koivisto & Sarsa, 2014). Companies are taking a great risk when gamifying their business processes since there are few frameworks and defined guidelines for successful enterprise gamification available. It is hard for enterprises to understand the benefits that can be gained

through gamification when there are no guarantees, and few guidelines to evaluate and base decisions on.

Gamification is evolving by the day. The concept is still young, and researchers and practitioners have disagreements concerning what it is and how it is supposed to be treated. Enterprise gamification is in need of more research to eventually result in how it can be successfully implemented.

The purpose of this study is to identify connections between why organizations succeed or fail when adopting gamification, and how employee motivation is involved in this issue. This study aims to answer why a great amount of gamified applications fail in meeting business objectives, and how sustainable employee motivation can be achieved by the implementation of gamification at the workplace. The answers on these issues will result in development of an enterprise gamification framework.

These are our research questions:

- Which factors results in successful gamification in enterprise settings?
- How can enterprises sustainably engage and motivate their staff through gamification?

2. Related Research

2.1 What is Gamification?

- "Games are everywhere. We play games while traveling, while relaxing, or while at work, simply to create enjoyable experiences for ourselves and for others. Firms, too, have long motivated their employees and customers with game-like incentives [...] However, increasing engagement and rewarding desired behavior with such incentives has always been hard to perform at scale." (Robson, Plangger, Kietzmann, McCarthy, Pitt, 2015, p. 411).

Today, there is an on-going debate concerning what gamification is. There are many disagreements among researchers and practitioners regarding gamification, and for this reason a recognized definition of the concept does not exist yet.

Marigo Raftopoulos is a well-known researcher and expert in enterprise Gamification. She was speaking at the Gamification World Congress in Barcelona in November 2015. In her speech, she presented her framework of her interpretation of what gamification is (Figure 1). Raftopoulos (2015) highlights that every definition of gamification is just as correct as another. She accentuates that the concept of gamification is still early and evolving, and that we all have to accept the fact that it consists of several intertwined definitions. Gamification could be a product, a way of thinking, a process, an experience, a designerly way, and a system, all at once (Raftopoulos, 2015).

However, a common and accepted definition of gamification is the idea of using game elements in non entertainment contexts (Deterding, Dixon, Khaled, & Nacke, 2011; Nelson, 2012; Robson et al., 2015).

Figure 1: What gamification is according to Raftopoulos (2015), where different possible definitions of gamification are intertwined.

2.2 Gamification as a concept

Still to this day, whom it was that first coined the concept of gamification is unknown. There have been organizations and individuals who were particularly early with accepting the way of thinking about game-design in non-entertainment contexts. The psychology behind gamification by taking advantage of the motivational factors in games, were considered already before the concept was defined in any way. People knew what they wanted to achieve, but they simply could not define it yet.

Nick Pelling, a computer programmer and inventor, used the word gamification in 2002 as a coincidence as he wondered if it was possible to use game user-interfaces on commercial electronic devices, making them more entertaining and faster to use. Pelling founded the company *Conundra Ltd* in 2003 aiming on actually pursuing gamification, but had to close it down due to lack of customer interest. Pelling himself describes his involvement in the gamification history as *"I devised [I believe] the term, tried to make money from it, failed miserably, pulled out long before anyone else used it, and that was pretty much the end of my involvement. Oh well! :-)"*. (Pelling, 2011)

However, others disagree and believes Rajat Paharia, the founder of the gamification platform Bunchball, to be the founder of gamification. Paharia founded the company in 2005 and was particularly early in developing a gamification technology solution. Therefore, Paharia is widely recognized as the founder of the concept (Bunchball, 2016).

It was not until around 2010 the concept of gamification grew some kind of general curiosity, reflected in the number of search hits of gamification online. There was also suddenly an increasing number of academic papers being published. However, whether gamification is effective is still an on-going debate. There are many knowledge gaps on the issue if gamification is effective or if it is only a hype. (Hamari et al., 2014)

Gamification is represented in a variety of domains, e.g. healthcare, sustainability, government, transportation, and education (Robson et al., 2015). In recent years, technology designed to motivate people and support processes which benefits users both individually

and collectively, has increased (Hamari & Koivisto, 2015). Gamification satisfies this issue by being a design that aims to support these things, and which also supports the desired outcomes outside of the system (Hamari & Koivisto, 2015).

The digital development on our planet have made us dependant on technology to connect with each other and share experiences. The companies have caught this up as an important factor to make use of in today's work life, and are *"turning traditional processes into deeper, more engaging game-like experiences for many of their customers and for their employees."* (Robson et al., 2015, p. 1).

2.3 Gamification as loyalty programs

Marketing strategies through loyalty programs have been an emerging trend in recent years. Loyalty programs aims to secure customer loyalty to a retailer, and lately large scale programs of this kind have emerged in many different industries (Gómez, Arranz & Cillán, 2006). For example, airline companies strengthen their competitive position by motivating passengers to choose them repeatedly (Dolnicar, Grabler, Grün, & Kulnig, 2011). An example of an airline loyalty program is SAS EuroBonus program, where points can be redeemed for discounts on plane tickets in return for their customers' loyal behaviour.

Gamification is related to loyalty programs because *"a growing number of brands are adding gamification elements to their loyalty programmes - although they are not always done well. Two standout programmes that Armbruster highlights are Playstudios' myVegas and American Airlines' AAdvantage Passport Challenge."* (Davey, 2015).

The idea of gamification can, through the perspective of loyalty programmes, be traced back as long as 1896. Naturally, at this time it had nothing to do with technology, but the idea of creating a loyalty program was an idea S&H (Sperry and Hutchinson) had, called the *S&H Green Stamp Program*, used by i.a. American gas stations (Draeger & Speltz, 2007). The stamps (Figure 2) were purchased from S&H by gas stations, which in turn gave them to customers to encourage them to repeat business. Customers who got the stamps collected them in books and redeemed them for merchandise in S&H stores.

S&H Green Stamps are gone today, but are alive and well through the digital version "greenpoints" instead (Draeger & Speltz, 2007).

Figure 2: The S&H Green Stamps used in the S&H Green Stamp loyalty program.

The idea behind gamification, with its aim to engage and motivate individuals, could if observed from this loyalty-programme perspective, have a long history behind it. The idea behind loyalty programs could be the foundation of gamification and where it once has emerged from. From the antique Green Stamps, through airline- and store loyalty programs, through founding of the name Gamification, to founding of platforms such as Bunchball,

resulting in today's interactive classrooms and company meeting rooms, with the ambition to motivate employees and students through game mechanics.

2.4 Gamification is not serious games

Gamification and serious games have their similarities both in the idea behind them and in the word *game*. This unfortunately often makes the concepts tangled into one another, observed as different names for the same thing. We wanted to reserve a section to untangle the concepts and present their differences, to make our perspective on gamification clear in this thesis.

Serious games go under various different names, e.g. "*immersive learning simulations, digital game-based learning, gaming simulations, and "games you have to play""* (Derryberry, 2007, p. 3). Serious games refers to games designed with the aim to improve learning, where fields of application includes e.g. military training, healthcare, corporate education, schools and universities, different levels of education, and many other parts of the society all around the world. Serious games are *not* primarily designed for entertainment (Derryberry, 2007; Marczewski, 2013). Serious games have an organized play-situation and have a meaning and purpose of being played. Take the military for example, they are relying on these types of games to prepare for real life situations. They are playing these games with the purpose to be able to handle the extreme and dangerous situations they will be facing in their work. (Derryberry, 2007)

Marczewski (2013) divides serious games into four different parts. Marczewski (ibid), apart from Derryberry (2007), defines the military serious games as a *Simulator*, a gameplay which is safe for practice and works as a virtual representation of a real life event. The following three serious games he refers to as *Teaching Games* (games that teaches the player something), *Meaningful Games* (games that promotes a meaningful message) and *Purposeful Games* (games that has a real world outcome by being played, e.g. medical research). In order to make the distinction between games and game related concepts clearer, Marczewski has made a framework one can use to define what type of game it is (Figure 3). (Marczewski, 2013)

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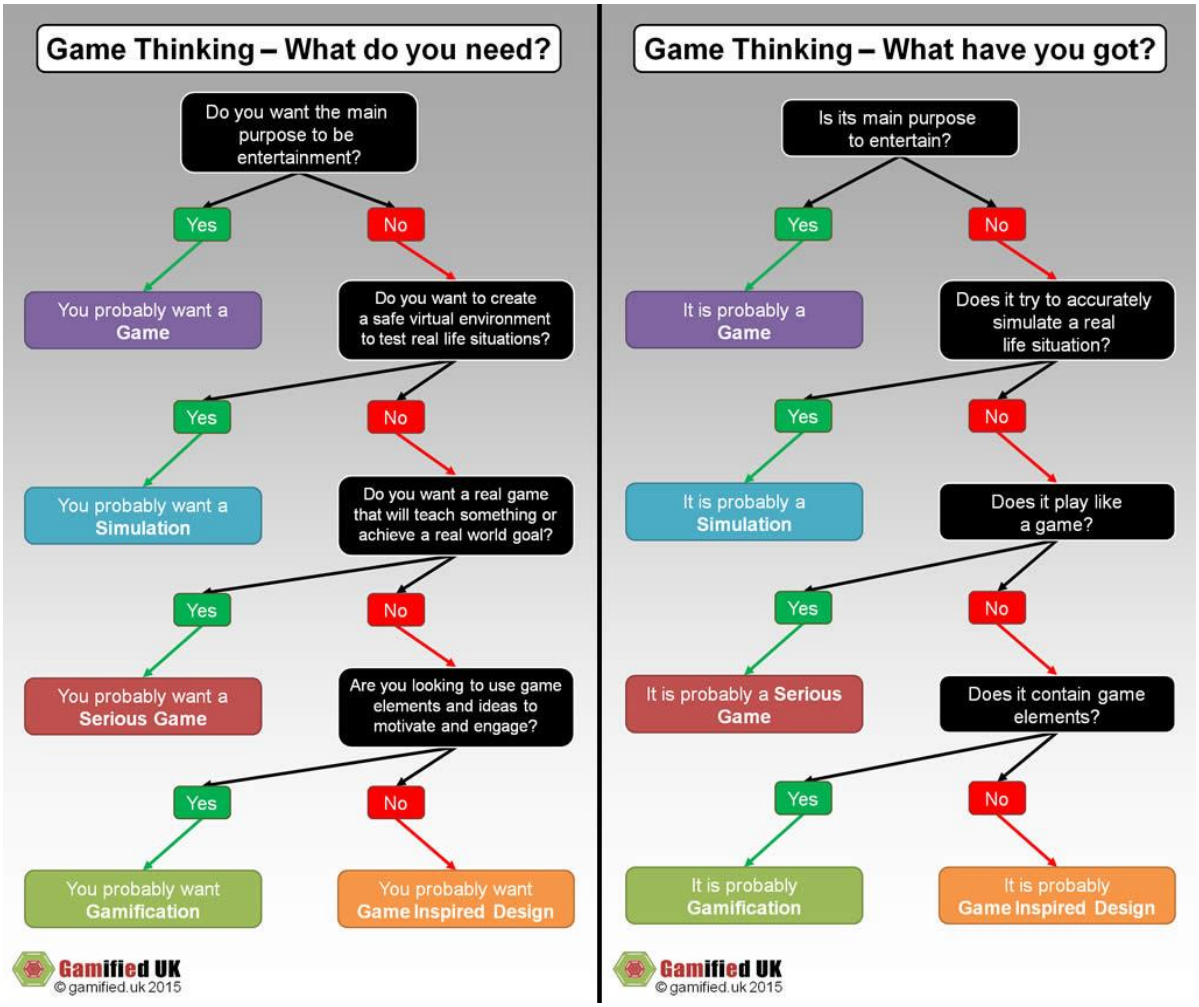

Figure 3: How to define if a game is a serious game or something else, by Andrzej Marczewski (picture taken from gamified.uk).

Gamification does not, apart from serious games, make something a game (Derryberry, 2007). Gamification uses game mechanics to make use of the motivational force in the player, making him or her motivated and excited to do something. Gamification solutions can naturally enhance learning, but the point is that it is not primarily designed for the purpose of education. Gamification is suitable in a context where a company e.g. want to make its staff more effective. Enhanced effectiveness could be achieved by gamifying the organization's intranet to enhance communication and collaboration, or arrange selling-competitions and a real-time scoreboard to enhance revenue and motivate the staff to work more effectively.

2.5 Previous Frameworks

Seaborn et al. (2015) asserts that only a few frameworks exist concerning how gamification systems can be analyzed. This is supported by Hamari et al. (2014) who claims that gamification as an academic topic is still young and only a few well-established frameworks have been made.

However, Chou's *Octalysis* is one of the more eminent frameworks in the gamification-field, which analyzes the core drives in human motivation. According to Chou (2015)

gamification emphasis on Human-Focused Design. This is a process that optimizes the human motivation in a system, as opposed to Function-Focused Design. Octalysis is described more detailed in the next section. Moreover, we will also present the MDA-, MDE- and SGE- frameworks in the sections following.

2.5.1 Octalysis

The Octalysis framework (Figure 4) was created because Chou (2015) recognized the need for a tool to help build strategies and analyze the implementation of Gamification. After years of studying game mechanics, Chou (ibid) came to the conclusion that there are eight different types of core drives that motivates us to do certain activities. The core drives pushes us in different directions and not everybody are motivated by the same drive. Visually, the Octalysis has a shape of a octagon where the core drives is represented in each corner. The drives on the right represents the creative, artistic and social aspects, while the drives on the left side represents the logical and intellectual aspects. Chou (ibid) refers to these sides as *Left Brain* and *Right Brain*. Moreover, he discusses the importance of understanding that these drives favours either extrinsic or intrinsic motivation. Chou (ibid) claims that many companies aspire to design solely for the extrinsic motivation, which is about reaching a goal or getting a reward. However, Chou (ibid) states that the intrinsic motivation, the use of creativity and socializing, should be the focus of design to encourage continuous motivation and make the activity itself rewarding.

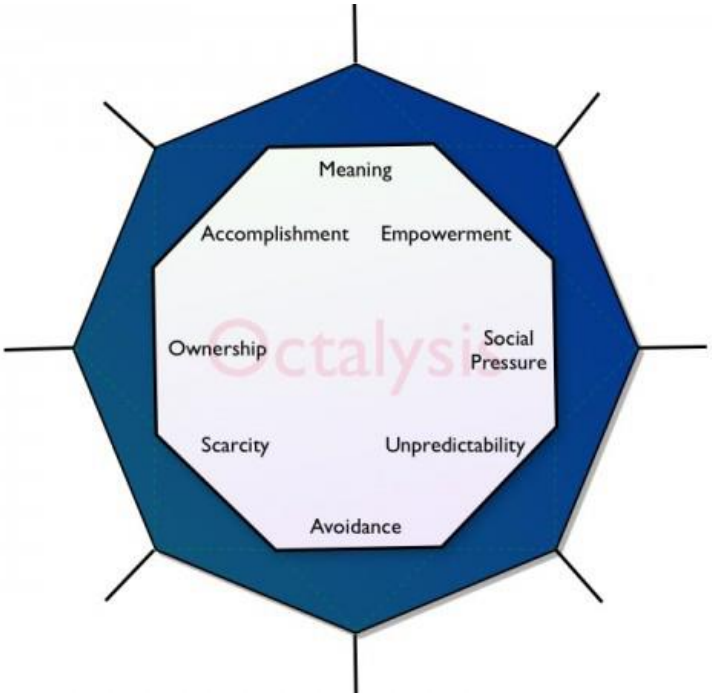

Figure 4: Chou's (2015) Octalysis framework.

Chou (2015) categorizes the drives on the bottom side of the Octalysis as *Black Hat Gamification*, meaning negative motivation. These types of drives refer to the person being motivated to take a certain action because of the fear of losing, because of the curiosity of upcoming event,

or because of the strive for achieving the things he/she cannot have. The drives on the top side of the Octalysis are ones that Chou (2015) labels as *White Hat Gamification* and these are considered as positive motivations. These positive core drives motivates individuals through creativity, makes them feel powerful due to the sense of control and the impression of a greater meaning. Chou (ibid) emphasizes that the negative drives can inspire motivation as much as the positive ones, but a balance between the two is vital for achieving a satisfying and favourable result. Chou (ibid) highlights that successful gamification requires consideration of all the core drives.

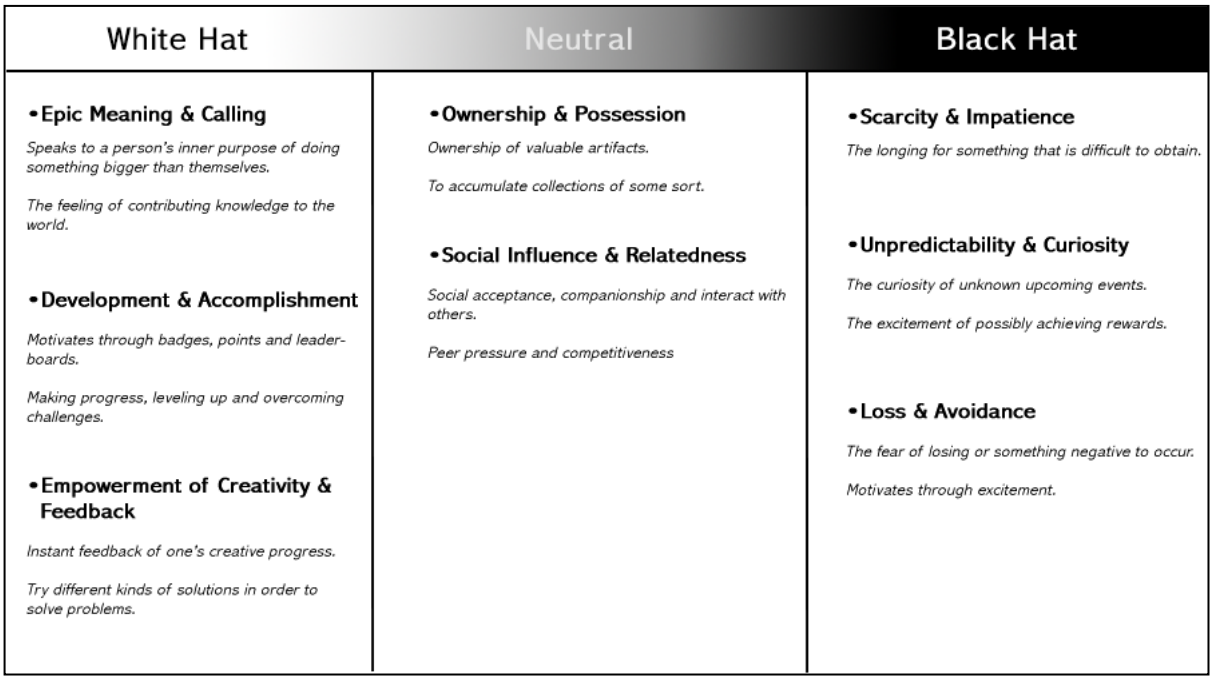

Figure 5: Summary of Chou's (2015) drive cores, categorized in black-, white- and neutral gamification.

2.5.2 MDA Framework

- *"The difference between games and other entertainment products (such as books, music, movies and plays) is that their consumption is relatively unpredictable. The string of events that occur during gameplay and the outcome of those events are unknown at the time the product is finished."* (Hunicke, LeBlanc & Zubek, 2004, p. 2)

Many researchers and practitioners have defined gamified systems based on the formalized theoretical game design concepts mechanics, dynamics and aesthetics (MDA) (Figure 6). The MDA-framework is a basic framework in game-design, where the designer builds functions (mechanics), which is in turn provides different user-interactions (dynamics), which brings emotions and experiences to the user (aesthetics). The MDA-framework is of help when visualizing the designer-to-user relationship. The MDA-framework is depicted as a one-way relationship from designer to user. (Umar, 2015)

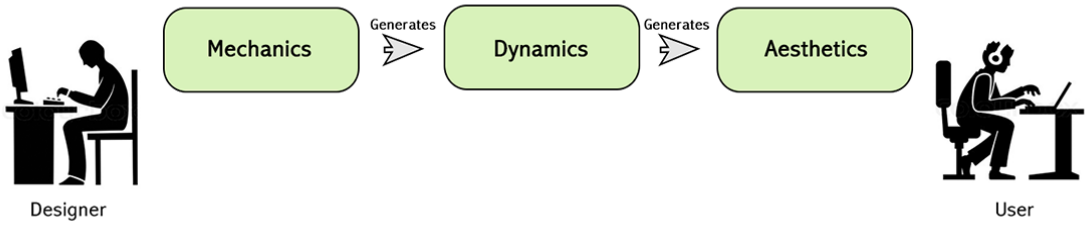

Figure 6: The MDA-framework and its one-way relationship between the designer and user.

- **Mechanics:** *"[...] describe the particular rules and components of the game in terms of what actions players can undertake; the processes that drive user actions"*
- **Dynamics:** *"[...] describe how the rules manifest during actual gameplay (run-time) based on the player's' inputs to the system as well as interactions among players"*
- **Aesthetics:** *"[...] describe the desirable emotional responses evoked in the users when they interact with the gamified system"*
  Reference: Umar (2015, p. 7)

2.5.3 MDE Framework

The MDA-framework (2.5.2) has been modified by different authors to fit a various of different contexts. One of the modifications has resulted in the MDE framework (Figure 7), where the concept *aesthetics* is replaced with *emotions* to describe the user experience. Robson et al. (2015) argues that aesthetics describes *"the desirable emotional responses (e.g., fantasy, submission, fellowship, discovery) evoked in players when they interact with the game."* (p. 413). The authors means that aesthetics are more relevant in a game context, but is not suitable in gamification design since gamification is not specifically a game. Therefore, aesthetics is replaced with emotions as "*it better links to the engagement outcomes that businesses can attain from employees and customers*" (p. 413).

Robson et al. (2015) argues about the importance of understanding how the principles mechanics, dynamics and emotions relates to one another, that it is the key to successful gamification. They mean that in a successful gamified experience, the player's emotions and the dynamics developed when interacting with the system should shape the part of the mechanics that controls the overall play of the gamified experience. This differs from the MDA framework that has a one-way relationship, where the parts does not affect each other.

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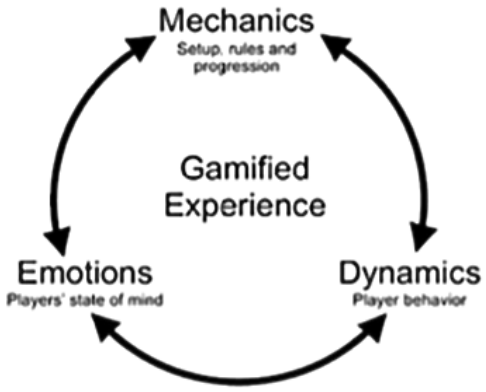

Figure 7: The MDE-framework developed by Robson et al. (2015).

2.5.4 SGD Framework

The Sustainable Gamification Design (SGD) framework was developed by Marigo Raftopoulos in 2014. Raftopoulos designed the framework because she wanted to develop an enterprise gamification framework that was conscious of value creation benefits, value destruction risks, and also was human-centered and concerned about being ethically correct. Raftopoulos argues that a gamification framework developed from this perspective and conscious of the factors above could "*potentially produce more responsible and sustainable results*" (p. 159). (Raftopoulos, 2014)

Raftopoulos (2014) bases her framework on seven key themes which she believes creates value in gamification, where each theme also has a corresponding value destruction theme (Figure 8).

Value Creation Benefits (The Rhetoric)	Value Destruction Risks (The Seven Deadly Sins)
1. Engage and motivate employees *Engagement*	1. Coercive participation *Coercion*
2. Performance data analysis *Analytics*	2. Leaky container problem *Leaking*
3. Improve learning and collaboration *Learning & collaboration*	3. Technological whip *Channeling*
4. Shape behaviour & performance *Shape behaviour*	4. Homogenisation of the workforce *Norming*
5. Improve employee productivity *Empowerment*	5. Loss of human agency *Disempowerment*
6. Workplace & process transformation *Transformation*	6. Illusion of change *Misrepresentation*
7. Make work more fun *Fun*	7. Shallow and inauthentic *Inauthentic*

Figure 8: Raftopoulos' (2014) enterprise gamification risks and benefits.

The SGD framework (Figure 9) was developed based on the gamification key themes in figure 8. Raftopoulos (2014) argues that *"the development of enterprise games and gamification needs to be subject to (or make use of) the same rigors, models and frameworks that have already been widely used and tested in these fields"* (p. 163). This is why she is influenced by previous research, taxonomies and models, when designing the SGD model. Furthermore, this is why she has built in flexibility in the framework, due to her belief that design of games and gamification are in need of room for creativity (Raftopoulos, 2014).

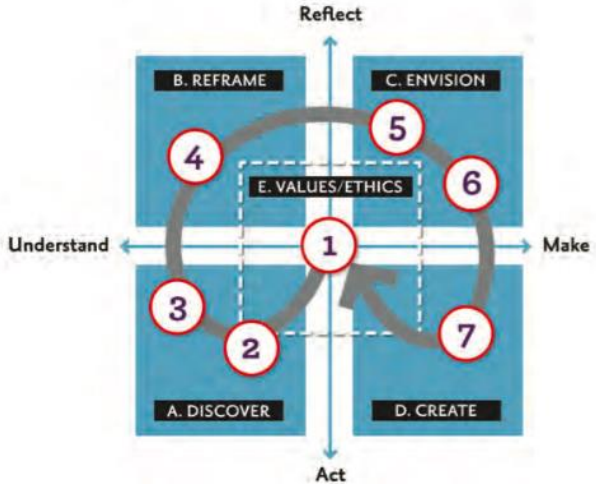

Figure 9: Raftopoulos (2014) SGD model and design process.

The SGD model consists of four steps: *Discover* (understand context and actors of the system), *Reframe* (information from the Discover-phase is analysed, opportunities and potential solutions is considered), *Envision* (a preferred solution is explored for and identified) and *Create* (the gamified solution is designed and launched). The model has two axes: *Reflect/Act* and *Understand/Make*, which frames how the activities in each quadrant are performed. *Values* and *ethics* are important factors in gamification design, and therefore are placed in the center of the model. Values and ethics can manage the value destruction risks in figure 8 and therefore should be present in every part of the development. (Raftopoulos, 2014)

2.5.5 Summary and Comparison of models

The Octalysis framework is used to measure the extent of each core drive and categorises the drives into left versus right brain, and black versus white hat gamification. White hat gamification represents the core drives which are positive and black hat represents the negative ones. The core drives on the right side represents the creative, artistic and social aspects, and on the left side logical and intellectual aspects.

The MDA framework is used in game design and consists of mechanics, dynamics and aesthetics. The MDA framework has a one way relationship from developer to user.

The MDE framework consists of mechanics and dynamics, similar to the MDA framework. However, MDE has a part representing emotions instead of aesthetics, which the developers mean is a more suitable concept to use in gamification design. The MDE frameworks' parts

are continuously affecting each other, which differs from the MDA framework, where it is a one way relationship and the different parts are not affected by each other.

The SGD framework is developed to fit an enterprise gamification design process and is inspired from previous research. The unique aspect of the SGD framework is that it involves the important ethical conditions, which often are forgotten in gamification frameworks.

A summary of the frameworks is presented in the table below. The frameworks are categorized by model name, reference, context and scope.

Model	Reference	Context	Scope
Octalysis	Chou, Y. (2015). *Actionable Gamification - Beyond Points, Badges, and Leaderboards.* Octalysis Media.	Gamification design	Core Drives Left / Right brain Black / White hat
MDA	Umar, R. (2015). Level Up Your Strategy: Towards a Descriptive Framework for Meaningful Enterprise Gamification. *Technology Innovation Management Review , 5* (8), 5-16.	Game design	Mechanics Dynamics Aesthetics
MDE	Robson, K., Plangger, K., Kietzmann, J., McCarthy, I., Pitt, L. (2015). *Is it all a game? Understanding the principles of gamification.* Business Horizons, Vol.58(4), 411-420. doi: 10.1016/j.bushor.2015.03.006.	Gamification design	Mechanics Dynamics Emotions
SGD	Raftopoulos, M. (2014). Towards gamification transparency: A conceptual framework for the development of responsible gamified enterprise systems. *Journal of Gaming & Virtual Worlds , 6* (2), 159-178. doi: 10.1386/jgvw.6.2.159_1	Gamification design	Discover Reframe Envision Create Values/Ethics Reflect/Act Understand/Make

Table 1: Summary of previous game- and gamification design frameworks, including their context and scope.

2.6 Balancing game play

2.6.1 Balancing difficulty

Csikszentmihalyi's (1990) flow theory (Figure 10) concerns the issue of balancing the difficulty in a game. The flow theory is based on flow activities. These activities refers to anything that provides an enjoyable experience e.g. competitions, sport activities, art or play. One desires to stay in the pleasant flow channel, which is accomplished by balancing the level of difficulty. Balancing the difficulty means that at certain parts of an activity, an appropriate level of difficulty is essential to keep the player motivated. (Csikszentmihalyi, 1990)

When the challenge is too difficult, the player separates from the flow channel and becomes anxious and frustrated. In this state the player needs to increase his or her skills, alternatively reduce the challenge, to return back to the flow channel. Similarly when the challenge is to low, the player needs to either increase the challenge to return to the flow channel, or give up altogether and leave the model. (Csikszentmihalyi, 1990)

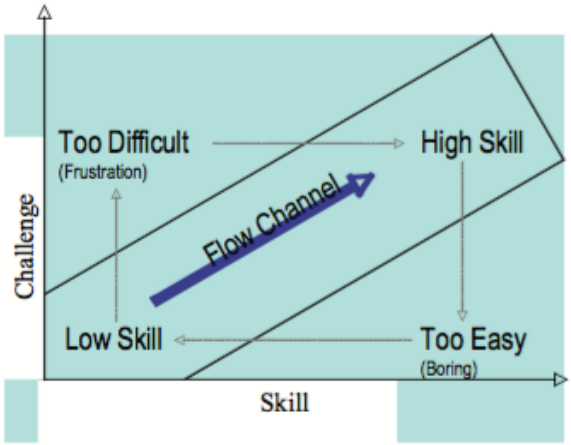

Figure 10: Winn's (2009) model of Csikszentmihalyi's (1990) flow theory.

However, Csikszentmihalyi (1990) accentuates the importance of not presuming that someone being in the flow channel automatically means that the person is having an enjoyable experience. If a game is enjoyable is entirely up to each individual player to decide, even if the game itself is designed to create enjoyable patterns. Furthermore, individuals can be in the flow channel by performing activities others may not consider enjoyable, e.g. raising children or working (ibid).

2.6.2 Balancing rewards

Winn (2009) describes that in order to balance the whole game play, the rewards given to the player also needs to be balanced. Winn (2009) means that during the hardest and steepest part of the game's learning curve, the player needs to be rewarded more frequently to stay motivated in order to keep on playing (Figure 11). The same theory is applied in the more challenging parts of a game to provent the player from giving up.

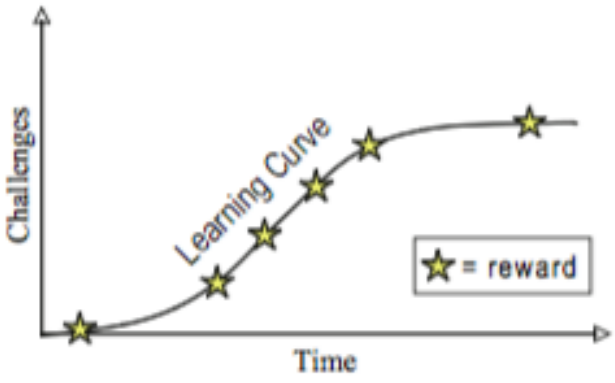

Figure 11: Winn's (2009) model of how to balance the frequency of rewards in game play.

2.6.3 Balancing play progression

Game designers often wants to balance the progression of play when designing games. Thus, to keep the player from getting overwhelmed with too many choices too early in the game. The number of choices, e.g. new goals, should therefore increase over time (Figure 12). This results in that the player continues in a loop of gaining new skills and achieving new goals, and keeps the player constantly motivated over time. (Winn, 2009)

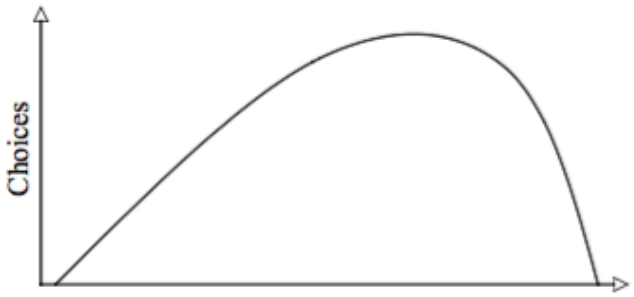

Figure 12: Winn's (2009) model of how to balance player progression in game play.

3. Research Methodology

The scientific method of choice in this thesis is a qualitative method, thus this approach allows a deeper understanding of how humans perceive and interpret the surrounding reality (Backman, 2016). The concept of gamification is rather abstract, covers many areas and is to this day not completely defined. Therefore, we do believe that it would be inappropriate to measure it with a quantitative method, since there are many interpretations of gamification and quantitative data could be difficult and complex to analyse. What gamification is to one individual may not be the same to another.

The qualitative research in this thesis will be conducted with an inductive approach, meaning we will collect data from the gamification-field and generate an understanding based on it (Creswell, 2003). The data will mainly be gathered through a literature study, but will also include a small number of complementary interviews. The reasoning behind this process is to catch the knowledge and opinions on enterprise gamification from people who have worked or works with gamification in different ways. They may not necessarily be researchers, but they will have the experience and knowledge and therefore provide important inputs to our study. This especially since there is a great lack in Swedish research on gamification. We also want to see if the respondents are agreeing with the literature, or may have other important opinions, perspectives and standpoints on enterprise gamification and motivation.

3.1 Literature study

The data gathering method used in this thesis is mainly a literature study which is the foundation of the thesis. The literature study will explore previous research on gamification, and also explore existing gamification enterprise frameworks and models. The previous

frameworks will serve as guidelines in order to develop our own enterprise gamification framework. In the literature study we will identify opinions of various authors in the field, concerning which factors that results in successful enterprise gamification and sustainable employee motivation. The literature study will also gain knowledge about where the research is inadequate on enterprise gamification, which will result in our recommendations for further research.

Based on the fact that gamification covers many fields of application, we will aim to identify main themes to focus on towards the answering our research questions, which are specified towards enterprises. The themes will be selected based on how frequently they are being brought up in the research explored in the literature study. This means that we will make an assumption that the repetition of certain themes from different sources can be an indication on that they are key factors which influences enterprise gamification and employee motivation. The themes will then be the silver thread though this thesis and studied carefully. The identified key themes will be presented in the result section.

The evaluation of the literature will be performed by using an evaluation protocol inspired by Backman (2016), which he developed based on his idea how to evaluate and select information from documents. The evaluation protocol will act as a foundation to determine if the literature read will support the process of answering our research questions. The evaluation protocol also has evaluation criterias such as if there are any inadequacies in the papers, if the result is accurate, and so on. The protocol is not only beneficial, but also highly important when handling greater amounts of information and many results are supposed to be integrated. The protocol will make it easier to observe connections and inadequacies in and between documents. The evaluation protocol consists of the following categories: *Prerequisites and Assumptions, Validity, Consistency, Implications* and *Significance*. (Backman, 2016)

Backman (2016) asserts that the analysis of the protocol is dependant on the current problem and question formulation. However, it usually has the objective of evaluating the results of studies, look at the procedures, samples, methods of choice, and so on.

In this thesis the article protocol and its documents will be evaluated mainly on the following criterias:

- Are the documents useful for us in order to answer our research questions?
- Are the documents' references up to date and able for us to evaluate (e.g. language, availability)?
- Are the documents‘ references scientific?
- Are the documents' references used in other documents? If so, are they referred to similarly or not?
- Are the documents' references known in the field of study?
- Are the documents written recently?
- How were case(s) or experiment(s) applied?
- How large were the sample(s) and how was it/them selected?
- What did the case(s) result in?
- Were there any inadequacies or limitations in the documents? If so, did the author(s) present them?
- Did the documents results answer the documents research question(s)?
- Is the result presented in a comprehensible fashion?

- Is the result consistent? Are there any contradictions?
- Is there a possibility that the result is angled to benefit someone or an organization?

3.2 Interviews

In addition to the literature study, this study will gather data from a small number of people who have worked or work with gamification in different ways. We will interview individuals which we believe have knowledge of enterprise gamification and can contribute to our quest in answering our research questions. The respondents will be selected both through references and research online. The purpose of the interviews is to catch the individual's experiences and/or opinions on adopting gamification in enterprise settings. This will include which factors they believe are contributing to successful gamification, how to sustainably motivate staff through gamification, and their thoughts on why gamification often fails in meeting business objectives.

We will perform our interviews based on Lantz's (2007) advice on how to effectively get information from a qualitative interview. This particular interview form has its challenges in being very open-aligned and non-structured. In a qualitative interview it is the respondent who defines and decides on how to interpret the topic that the interview concerns. The interview is not suppose to be structured, and the many possible answers from the individual can not be prepared for. A qualitative interview is relying on high-level analyzing to form a comprehensible and consistent picture. The validity of a qualitative interview analysis is decided on how well the meaning of the topic has been answered. (Lantz, 2007)

We will audio-record the interviews in line with Lantz' (2007) guidelines on how to capture and store the answers from a qualitative interview. Lantz (ibid) means that data would be reduced in an unsystematic way if taking notes during the interview. Moreover, that we sometimes unaware select what we want to hear due to our own personal understanding of words and cultural factors. Based on the audio-records the interviews will be transcribed in the process of presenting a result.

3.2.1 Ethical considerations

It is optional for the respondents to participate in the interviews. We will contact the respondents through email and inform them that we are studying gamification in our bachelor thesis, and that we aim to answer the issue on how to succeed with enterprise gamification. They will be informed that their participation will be anonymous and that they will be represented by alias in the thesis. They will also be informed that they are being recorded during the interview in order for transcription, and that the recordings and transcriptions are confidential and will be destroyed after the completion of the thesis.

3.3 Analysis of literature study: Text Analysis

The data from the literature study will be processed using an holistic text analysis (Holme & Solvang, 1997) with ad-hoc similarities. The method will result in an comprehensive picture of the overall data. Thus, the text will be categorized into focus areas. This method is divided into three phases:

- **Choice of theme and focus areas**
  The first phase consists of studying the data material and identify different focus areas. According to Holme & Solvang (1997), this will be accomplished by just reading the material, and naturally, an interest for certain topics will emerge. Patterns will be discovered from recurring focus areas and contradictions will be identified, which is favorable in the later comparison of all the collected data.
- **Define focus areas**
  Based on the result of the previous phase, the next step is to define the focus areas and formulate questions. In this thesis, this particular part of the process will deviate from Holme & Solvang's (1997) description, since the research questions are already established in the beginning of the study. Moreover, some themes will already have been specified in the literature study as described in section 3.1.
- **Systematic analysis**
  The final phase consists of beginning the systematic analysis based on the research questions. In this phase we will read the material once more, with the research questions as a starting point. This phase will finally result in a table that consist of the focus areas defined in the previous step. Each theme will be tied to a research question and all the data gathered that falls under a specific theme will be summarized there.

3.4 Analysis of interviews: The Framework Method

The Framework Method (Figure 13) is one way to perform the analysis of qualitative data. The Framework Method is a flexible tool. The method aims to identify similarities and differences between the data, seeking relationships between different parts of the data, and results in explanatory conclusions gathered around specific themes. The qualitative data must concern similar topics to be useful, since the method requires that the data can be categorized later. (Gale, Heath, Cameron, Rashid & Redwood, 2013)

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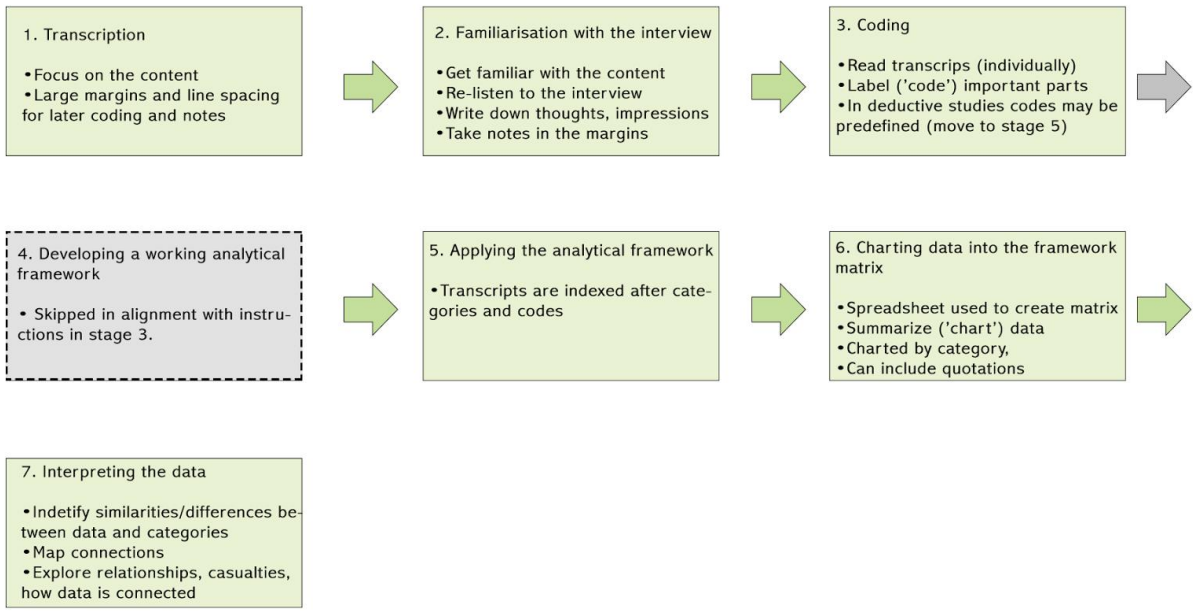

Figure 13: The Framework Method with including steps and instructions. The gray dotted square (stage four) is skipped in alignment with the instructions in stage three on how to proceed if codes are predefined.

3.5 Connecting the dots

The data gathering methods in this thesis has its twist in both gathering data from literature and also from a small number of interviews. The different types of data gathering methods will require different types of analysis methods, these methods are described in sections 3.3 and 3.4.

Based on the analysis summary from the literature study and the matrix from the interview analysis, this will result in a fusion of the respondents' and literatures' perspectives and opinions on our study's themes and research questions. This fusion will construct the overall analysis which an enterprise gamification framework will be developed upon. We will discuss the overall analysis in order to identify agreements and differences in detail, both in and between the literature and interviews. We will perform this phase in a similar fashion as the previous methods. Based on our research questions we will aim to identify connections, cause-and-effect relationships, agreements, disagreements, opinions, standpoints and search for patterns concerning our research questions.

4. Result of Literature Study

This chapter presents the result of the literature study. As previously stated in section 3.1 *Literature Study,* a number of key themes were identified. The sections of this chapter are therefore divided into the different key themes: *Player Journey*, *Player Types*, *User Motivation & Rewards*, and *Manage, Monitor & Measure*. Furthermore, the chapter includes other important topics that are related to the answering of the study's research questions.

4.1 Gamification in enterprise contexts

Traditionally, work and play does not mix. However, gamification gives the opportunity to combine the two (Kumar & Herger, 2013). The assumption that work and play are opposite things, stems from the industrial age, where most work consisted of montonous tasks. Our workplace has changed significally since then. *"The expectations on us as employees has changed as well [...] We are expected to bring our creativity and entrepreneurial spirit to work, and help our business innovate"* (Kumar, 2015). Employees also have to be engaged with the company's business goals and make good decisions to favour this process. (Kumar, 2015)

However, according to the Gallup Employee Engagement Survey (2013) this does not reflect the reality. Only 13% of the employees across the 142 countries are engaged in their work and are focused on creating value for their company. As much as 24% are actively disengaged, which implies that they are emotionally detached from their workplace and are potentially even hostile to their organization. The number of actively disengaged employees has decreased from 27% to 24%, but maintains to exceed the number of engaged employees. The result of Gallup's research (2013) suggests that there is a large quantity of organizations in the world that are less productive, and therefore not able to provide as many job opportunities as they have the potential to. Kumar (2015) states that these numbers concerns business leaders all over the world, and is the reason why gamification is being globally recognized in organisations.

Raftopoulos (2015) accentuates the importance to observe enterprise gamification as a whole (Figure 14). If the front end part works well, i.e. the user interface is appealing and people are motivated, but the rest of the system is not re-designed and not ready to take that into account, the whole system would suffocate and ruin the results. She means that one always has to look at the whole system to avoid a boost, which would go back to normal shortly if the whole system is not ready for this change. (Raftopoulos, 2015)

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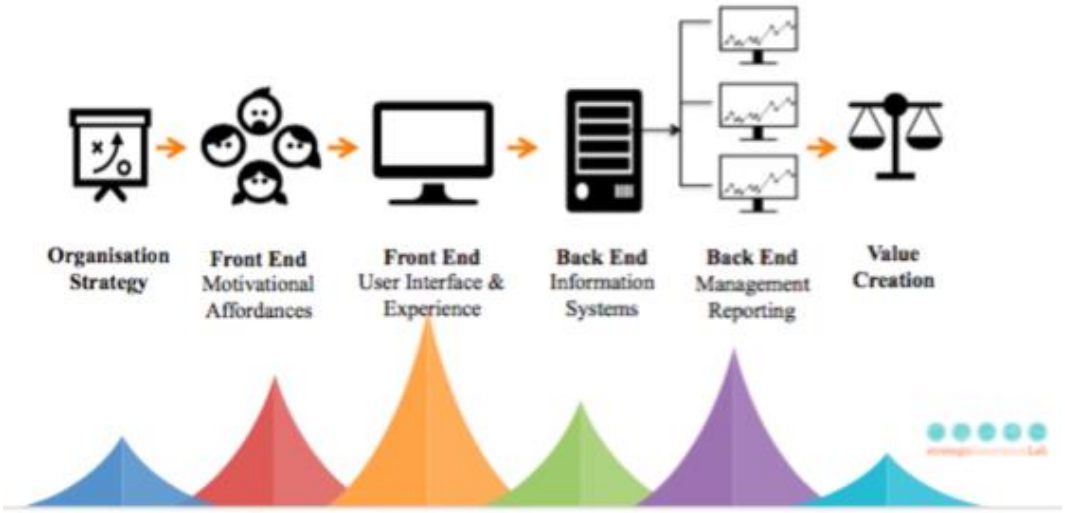

Figure 14: Raftopoulos (2015) Gamification Enterprise Anatomy framework.

4.1.1 Knowledge Management

Knowledge management is a key component to a successful business and a main asset to keep the production going in organizations. Creating, refining, implementing, leveraging and distributing organizational knowledge is an important aspect for business processes. For example, sharing knowledge between different in-house projects is beneficial for future work, because it creates valuable insights on possible improvements. Most companies are having a hard time managing knowledge, and employees often have to "reinvent the wheel" with solutions that's been previously used within the organisation. (Schacht, Morana & Mädche, 2014)

In their case study, Jurado, Fernandez & Collazos (2015) explores if participation in knowledge management processes are improved by gamification. They compare two approaches, where the first one is based on email communication and guidance of a project leader that coordinates knowledge contributions. The second approach is based on game mechanics such as points, medals and leaderboards. In the aspects of participation, contribution and collaboration of knowledge, the result of the study implied that the gamification approach motivated employees to engage more in these knowledge processes, compared to the approach were there were no use of game mechanics.

4.2 Player Journey

Chou (2015) claims that it's common among people to view the user's motivation in a gamified system as a fixed variable, even though it's a continuously changing process as the user's knowledge and familiarity with the system evolves. The key to a successful gamification project is to get the user motivated and, above all, keep the user motivated. This process can be divided into different stages and is commonly referred to as *The Player Journey*. Researchers have attempted to describe this, and many have a similar approach to the stages, although in somewhat differential ways, which are presented below.

Chou (2015) states that his work is inspired from Kevin Werbach's theory, and consists of a discovery, onboarding, scaffolding and endgame phase. The difference between the two is

that instead of discovery, Werbach & Hunter (2012) presents a *Identity* phase. This is the phase where the user e.g creates an account for the gamified system. Chou's (2015) player journey starts at the discovery phase, where the user first discovers and learns about its existence. Next comes the onboarding phase, where the user is introduced to the gamified system and learns how to actually use it. After onboarding comes the scaffolding phase. The scaffolding phase is where the user applies the knowledge obtained in the previous phase and tries to achieve as many *Win-States* as possible, described as milestones in the progress to keep the user motivated. The last stage is called *Endgame*, which is the phase where the user feel that there are no more Win-states to achieve, but are still motivated enough to keep using the system. The importance of the player journey is to understand that the user is motivated by different elements in each one of the phases. (Chou, 2015)

Marczewski (2015) has developed a user and design journey (Figure 15), with the core concept shaped from Kim's (2014) *Player Journey Over Time*. Amy Jo Kim is well known in the field of game design. She is a part game designer and part web community architect. Her qualifications includes the design of many commonly known games and services such as Rock Band[1], The Sims[2] and eBay[3]. Kim's (2014) player journey consists of onboarding, habit-building and mastery. *Onboarding* is described in a similar fashion as Chou's (2015) first phase. *Habit-building* consists of activity loops and feedback systems that levels the user as the experience grows, and *Mastery* is when these users have mastered the system and wants to go even deeper.

Marczewski (2015) claims that Kim (2014) lacks to describe the different stages of a gamified system and has developed his own player journey called *EEEE*, shortened for: *Enrol*, *Enthuse*, *Engage* and *Endear*. *Enrol* is the phase where the user has started to use the system under the process of learning how to use it. The *Enthuse* phase comes in when the user has the basic knowledge about the system and starts playing with it, to test different kinds of functionalities. Marczewski (2015) describes that in this phase, the user's activity level is usually starting to decrease. Next is the *Engage* phase, where the user begins to use the system in the intended way. The final phase is *Endear*, where the user is engaged in the system through intrinsic motivation. It is also in this phase the user starts to help others to engage in the system.

There are a lot of similarities between Chou's (2015) and Marczewski's (2015) description of the player journey. They are both discussing the phase where it's vital to keep the user motivated enough to keep coming back to the gamified system. Furthermore, both states that this is the phase where most users "drop-out". They both describes the final phase as where the user reaches an internal motivation and understands the higher purpose of why the system should be used. The apparent difference between the two is that Marczewski (2015) has not included a discovery phase.

[1] http://www.rockband4.com (Retrieved: 22-04-2016)
[2] http://www.thesims.com (Retrieved: 22-04-2016)
[3] http://www.ebay.com (Retrieved 22-04-2016)

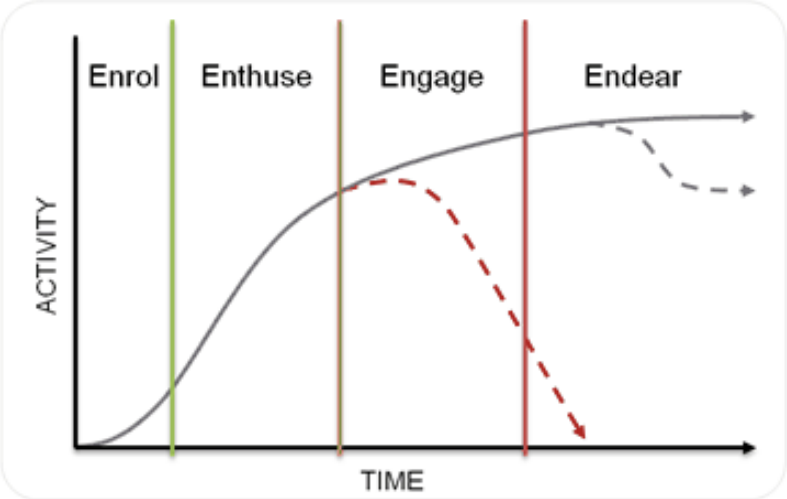

Figure 15: Andrzej Marczewski's (2015) Player Journey.

4.3 Player Types

In the design of gamified systems, the users' intrinsic motivation and personality should be considered. All human beings are individuals and have reasons why they act, think, behave and feel in a certain way at different stages of their life (Ferro, Walz & Greuter, 2013). This implicates that not everybody is motivated by the same things, and therefore it is important to implement game elements that favour the users different personalities. Richard A. Bartle is a British researcher who is known for being the co-creator of MUD1 (Multi-User Domain), which was one of the first of its kind. Bartle (1996) described these different personalities in MUD-context, which can be categorized into four player types: *Achievers*, *Explorers*, *Socializers*, and *Killers*. The *Achiever* finds prestige as an important part of the gaming experience and e.g aims to be on top of the leaderboards. The *Explorer* finds excitement in discovering new areas and finding rare items. The *Socializer* finds the social aspect most thrilling and will gladly socialize with other players. The *Killer* is of a more competitive nature and will find pleasure in defeating other players.

Some researchers have found issues with Bartle's work and claims that it's not applicable on gamified systems (Dixon, 2011), and claims that these player types never were intended to be general for all game design even if it's often referenced to in gamification literature. Second, Dixon (ibid) argues that player types can be a combination of each other or consist of other types' components. Even though the correlation between player type and personality is strong, one should consider the fact that users have certain play preferences and can take on a persona when playing a game, therefore not acting the same as in real life (Dixon, 2011).

Andrzej Marczewski (2015) also asserts that Bartle's (1996) player types is a misunderstood metaphor carelessly used in the gamification literature. Therefore, he has made an attempt to compose a player type model (Figure 16) that is based on Bartle's (1996) model, but adjusted to gamification context. Marczewski (2015) describes the players as users, and identifies six different types of users: *Philanthropist*, *Disruptor*, *Free Spirit*, *Achiever*, *Player* and *Socializer*. *Philanthropists* are motivated by a higher meaning and will strive to enrich the lives of others. *Disruptors* are motivated by change, both negatively and

positively. *Free spirits* refers to people that are motivated by creativity and self-expression. *Achievers* want to master the system and are motivated by improvements. *Players* are inspired by collecting rewards. Finally, *Socialisers* are motivated to engage in the system because of the social aspects and the interaction with others. Furthermore, each user type has multiple user subtypes and are driven by the motivators in the inner hexagon.

Figure 16: Andrzej Marczewski's (2015) Player and User Types Hexad.

Robson et al. (2015) presents a somewhat different view on the users involved in a gamified system, and has identified four distinct types: *Players*, *Designers*, *Spectators* and *Observers*. *Players* are described as the people who are actively competing in the system and are immensely involved. *Designers* are people who make design decisions and manage the gamified system. The Designers also have the important role to oversee the system and are highly immense with the implementation of the framework. The third type is the *Spectators* and these people have a more passive role, but have strong influential effect on the system. The Spectator can be compared to a supervisor, whose job is to ensure that everything is running smoothly. At last it's the *Observer,* and these individuals are described as potentials Spectators or/and Players, if they become more active in the system. Usually this type has no impact on the system and remains passive, but can have an influence on the system if they are large in numbers and therefore may draw attention to it. All participants in the system have the possibility to change their roles due to the extent to which they are involved. (Robson et al., 2015)

4.4 User Motivation & Rewards

User motivation and rewards are complex phenomenon's and difficult to apprehend. Users are not only being motivated in a number of different ways, but also desire various different rewards for their accomplishments. The motivation is the drive to do something, and the reward is what comes out of it. However, both motivation and rewards are described as

intrinsic and extrinsic, and the concepts are rather entangled, making them vulnerable to confusion and mix-up.

Besides from motivation and rewards, this chapter covers the employee motivational problems which are an on-going problem in organizations today. Furthermore, this chapter covers how the management should approach this problem and what their role is in their employee's motivational level. The chapter also includes a section about User Experience, since it is an essential part in designing an appealing, useful and motivating gamification system.

4.4.1 Intrinsic and Extrinsic Motivation

To be motivated means that you are inspired to do something and have the energy to perform a task of some kind. Motivation is what drives us to act in certain ways and represents the reasons behind our actions. People can be motivated by different things depending on their life experiences and underlying attitude towards the outcome of the action (Ryan & Deci, 2000). People can e.g. be motivated to complete a task because there is money to be earned, or they can be motivated because the completion of the task means that you learn a new set of skills.

Ryan and Deci present their *Self-Determination Theory* model (referenced in Ryan & Deci, 2000), in which they distinguish two types of motivation: *Intrinsic* and *Extrinsic*. The intrinsic motivation refers to a person doing something because the task itself is rewarding and satisfying. The extrinsic motivation is usually reinforced by that the completion of a task results in a reward, e.g money. Daniel Pink (2009) describes three factors that leads to higher motivation: *Autonomy*, *Mastery*, and *Purpose*. *Autonomy* refers to when people are motivated because they have the power to dispose their time however they see fit, as long as they get the work done. Control are the opposite of autonomy, and describes the next factor - *Mastery*. Pink (2009) states that mastery are the pursuit of becoming better at something. *Purpose* motivates people because they feel as what they are doing has a higher meaning and are bigger than themselves.

The discussion about the intrinsic and extrinsic motivation is a popular topic within the gamification research. Chou (2015) claims that the *Self-Determination Theory* and Daniel Pink's (2009) work is accurate, yet he states that his terminology somewhat differs. Chou (2015) argues that Pink's (2009) definition of *Mastery* as an intrinsic motivation is really an extrinsic motivation. According to Pink's (ibid) theory, a person that wants to accomplish something, e.g. climb a mountain, is driven by an intrinsic motivation. However, Chou (2015) claims that *Mastery* is an extrinsic motivation, because the task itself is not rewarding. He states that a simple way to determine whether the task is driven by extrinsic or intrinsic motivation, is to remove the goal and check if the person is still motivated to continue doing the task or not.

Chou (2015) brings up the issue about extrinsic traps, as he calls them. These traps typically happens when a person is exposed to extrinsic motivation in a task that was originally inspired intrinsically. This makes us more goal oriented and more likely to not pay attention to the task at hand. Deci, Koestner & Ryan (1999) asserts that in some cases, the extrinsic motivation doesn't always undermine the intrinsic motivation, although it's evident that strategies that has a majority of extrinsic motivators, risks reducing the intrinsic

motivators. Extrinsic motivators doesn't necessary need to be all negative, for they do have the ability to motivate a person to do a boring and repetitive task, because of the rewarding outcome (Chou, 2015).

4.4.2 Intrinsic and Extrinsic Rewards

There are two types of rewards, intrinsic/internal rewards and extrinsic/external rewards. The internal rewards refer to the individual's own feelings and apprehension about work itself and the value of it (Shanks, 2007; Özutku, 2012). In a health-care context this could be the pride and satisfaction when having providing good care for the patients (Shanks, 2007) but also professional growth, responsibility and challenges (Özutku, 2012). External rewards refer to physical things given by someone else, e.g. when organizations giving bonuses to their employees (Shanks, 2007; Özutku, 2012). Moreover, external rewards could be job security, better office space, or good social climate (Özutku, 2012).

Reward systems can be strategically implemented in organizations to develop their employees' skill level, knowledge, flexibility, commitment, retention and productivity (Howard & Dougherty, 2004). However, the rewards must be linked to something to contribute to reaching goals. The rewards could be linked to an identifiable attribute, activity or output (Howard & Dougherty, 2004). In human resource management practice, rewards are frequently used to verify performance and encourage effectiveness at the workplace (Özutku, 2012)

4.4.3 Rewards and Their Influence on Motivation

- *"While rewards may serve as incentives and those who bestow rewards may seek to use them as motivators, the real motivation to act comes from within the individual"* (Shanks, 2007, p. 24).

Shanks (2007) argues that the management may have a large amount of influence on their employees and their motivational level, but highlights that they can never force an individual to act. They can however, use different types of incentives *"in an effort to influence an employee in a number of ways, such as by changing job descriptions, rearranging work schedules, improving working conditions, reconfiguring teams, and a host of other activities"* (Shanks, 2007, p. 24).

According to Gunderman (2011) *"human beings are more likely to maximize fulfillment than profit"* (p. 341). Although recent motivational psychology and economic theory has focused on carrot-and-stick models, i.e rewards and punishments, there are more to human motivation than financial self-interest and profit. People do engage themselves in hobbies and activities without compensation, and they are sometimes even more motivated to perform those tasks than their job tasks. A study at London School of Economics showed that monetary rewards affected performance negatively. The author means that monetary rewards can *"narrow focus, incite unethical behavior, and decrease cooperation"* (p. 342). External rewards threatens people to fail and also take away the playful approach where they dare to try new things, take risks and fail. Monetary rewards sends a message that *"this work cannot be worth doing for its own sake, so we need to offer you an extra inducement"* (p. 343). (Gunderman, 2011)

Deci et al. (1999) supports Gunderman's (2011) claim concerning monetary rewards. They came to the conclusion in their study that extrinsic rewards can have an negative effect on the intrinsic motivation, as rewards decrease the interest for the task itself. Although the extrinsic rewards can motivate people, they tend to hinder people to regulate and motivate themselves, and this has an negative effect in the long-run. (Deci et al., 1999)

In line work on the other hand, external rewards may not only be beneficial, but necessary, to keep the staffs' motivation up and running. While in creative tasks those kinds of rewards can cause limits in the creative process and should therefore be offered after completion of the task. There are companies, e.g. Google, who provides their employees with time to work with whatever projects they prefer and work with something that really interests them. This has proven to be a success because the employees contributes the most valuable things during those projects. (Gunderman, 2011)

Güngör (2011) has studied the relationship between a reward management system (includes both internal and external rewards), employee performance and motivation in global banks. The sample consisted of 116 employees with different positions in 12 global banks situated in Istanbul. The study showed that there was a positive correlation between employee performance and financial rewards. The study also showed that both internal and external motivation enhanced employee performance. Güngör (ibid) concluded that external motivation was explained by financial rewards and internal motivation explained by non-financial rewards. Internal motivation was not affected by rewards in the form of money, but by the possibility of getting a promotion. (Gungör, 2011)

Moving on to another study. Participatory sensing refers to a data collection model where the users are a part in deciding what data to collect. A number of technical and user interface challenges exists in this field, where one is *"the designs of mechanisms that encourage individuals to contribute information towards the sensing task"* (p.33). An incentive study studied the effect of micro-payments, i.e. small tasks and small payments. In these types of studies, the data collection is determined on commitment from individuals and their participation. Participants were supposed take photos of outdoor waste bins through a mobile application. The pictures could be labeled with tags representing if the waste bins contents were waste or recyclable material. The incentive amount for the participants samples was also represented in the application. The participants could at most get 50 dollars in total for their contributions. There were five incentive groups with different types of payments for their contributions: *MACRO* (lump sum payment of 50 dollars for participating), *HIGH micropayment* (50 cents), *MEDIUM micropayment* (20 cents), *LOW micropayment* (5 cents) and *COMPETITION* (ranking based payment of each day's' samples taken, 1-22 cents per valid submission). The result of the study showed that *micro-payment* models were more motivational than the *lump sum* one, due to participants' self competition and the motivation to earn 50 dollars. Some participants continued to take samples even after they reached their payment limit of 50 dollars, just for fun to see how much money they could earn. The *lump sum* participants had a hard time staying motivated for more than a few days, since they could not estimate how many submissions they should contribute with to have deserved their 50 dollars. (Reddy, Estrin, Hansen, Srivastava, 2010)

4.4.4 Management and Enterprise Motivation Problems

- *"A person's strengths aren't always on display. Sometimes they require precise triggering to turn them on. Squeeze the right trigger, and a person will push himself harder and persevere in the face of resistance. Squeeze the wrong one, and the person may well shut down. This can be tricky because triggers come in myriad and mysterious forms. One employee's trigger might be tied to the time of day [...] Another employee's trigger might be tied to time with you, the boss (even though he's worked with you for more than five years, he still needs you to check in with him every day, or he feels he's being ignored). Another worker's trigger might be just the opposite - independence"* (Buckingham, 2005, p. 77)

Sager (1979) noticed in 1979 that employee motivation was declining and that people did not feel insecurity for their old age anymore. This made them pleasure-seekers who did not want to work more than necessary and took salary, vacations, insurance, sick leave and benefits for granted. An organization leader must be able to motivate people to achieve difficult and costly goals. A proper understanding of the employees is necessary to be able to motivate them toward business goals. Moreover, what they are interested in is essential to be able to create motivation. Based on previous studies, people value the following aspects at work: *achievement*, *recognition*, *work itself, responsibility*, *promotion* and *opportunity to learn*. Based on this, it is clear that people are motivated by performance and what they do at work. (Sager, 1979)

Motivation is a natural drive in people but challenging to activate on demand. Nicholson (2003) states that *"good managers motivate the power of their vision, the passion of their delivery, and the compelling logic of their reasoning."* (p. 57). This, together with some incentives added to it, will make people march in desired direction and create the ideal picture of how management in organizations should work. Sadly, this is only possible in the best of worlds and the reality looks significantly different. This strategy only works with a small group of employees and managers, and not many people are gifted leaders and therefore have small impact on others in general. (Nicholson, 2003)

Great managers have the task to turn people's talent into performance. They need to identify and capitalize on each individual's abilities and putting them in positions that takes advantage of those things. It saves both time and resources by having the right people in the right places, even if getting a proper understanding of an individual's strengths and weaknesses can take a while and therefore will cost both money and time. However, in the end, polishing someone's abilities and making them better takes less time and effort than trying to mold someone into a shape. The molding may never return any results and could be a complete waste of time. (Buckingham, 2005)

A leader can not motivate employees who are intractable, no matter how gifted and experienced the leader is. The only ones who can motivate them are the individuals themselves. The leader's position in this is to create circumstances where barriers are removed and the intractable employees have a chance to release their natural internal motivation, and channel it in the right direction. A basic ground rule in management is to accept the fact that one can not change other people's character, and most of the time not their actions either. Every individual has a unique set of motivational drivers, values and biases, and also different perspectives on what is reasonable, and therefore has to be

motivated from within. A common problem in organizations is that employees do not feel that the management cares about them and in turn blocking their natural motivation. (Nicholson, 2003)

4.4.5 User Experience

User Experience (UX) is a complex concept, facing the same dilemma as the concept of gamification by not having a clear definition and by consisting of several different parts (Lallemand, Gronier, Koenig, 2015). UX in general refers to the issue system developers are facing every day: How to make an appealing system that users *want*, *need* and have a *genuine use of*. A great user experience is useful when users can easily achieve their goals with the system, it is visually attractive, enjoyable, have a proper, understandable language and pays attention to detail (Gualtieri, Manning, Gilpin, Rymer, D'Silva, Wallis, 2009).

In order to create a good user experience one needs to understand the users. This understanding is achieved by *becoming the user*. This means listening to the users needs, observe them, create a persona (represents a segment of user population, including their attitudes, goals and behaviours), and empathize with them. One needs to design for change, serve user goals in order to serve business goals, have a creative talent, be aware of constraints (e.g time, money, context where the application will be used), and use simple prototypes to evaluate important parts of the design (focus can be taken from the important parts if it looks like a finished product, e.g. fonts and colors instead of function). Moreover, one needs to test continuously and educate teams on why UX is important, and make it a part of the System Development Life Cycle (SDLC). (Gualtieri et al., 2009)

Trying to catch the factors that motivates and engages us is only a small part of the whole issue. Multi-dimension is the key and user acceptance of technology is a far more complex situation than simply enhance engagement. User acceptance is consisting of many areas (Figure 17) but this fact is often overlooked in gamification design. If a user enjoys playing the game but do not get any relevant information out of it, the application can not be considered a success. (Raftopoulos, 2015)

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Figure 17: Gamification design and technology elements that are included in the user experience.

4.5 Manage, Monitor & Measure

Gamification should be viewed as an ongoing program instead of a project, because successful gamification needs continuous maintenance. In comparison to playtesting in game design, a similar approach should be taken in a gamified system. It is important to test during the gamification design process and measure the metrics to calibrate for continuous improvements. Kumar and Herger (2013) presents three important aspects to take into consideration when creating a gamification strategy. The first one is to *manage the mission*, which concerns the assurance that the gamification process is aligned with the business goals and that everyone involved has the same vision. The second one is *monitor player motivation*. This aspect studies how the users are affected through observations or interviews. It is vital to plan for *player fatigue*, because a user can be motivated and committed to the gamified system, but after a while, that engagement can diminish. This can be prevented e.g. by creating new features and releasing them one by one. It is also important to take into consideration that the new features accommodate various user expertises. The last one is *measure effectiveness of mechanics*, which involves the identification of the indicators that a gamified system is successful. The metrics need to be established so that the measuring can generate data, and is divided into four categories: Engagement, Time, ROI and Quality. Common metrics are number of active users, cost reductions, sales increased and number of users performing actions. (Kumar & Herger, 2013)

4.5.1 Tools for Adaption & Evaluation

Heilbrunn, Herzig and Schill (2014a) describes gamification as a project, where monitoring and adaption is the last phase in the gamification process. They continue to state that this phase is important because there are valuable information that can be contracted from the gamification data. This information can be used to change and improve user behaviour, ROI and measure how well the business goals are met. In their paper, they present a theoretical model (Figure 18) that consists of 22 user requirements divided into five categories, that

should be taken into consideration when analyzing gamification. The first one is *Application KPI Monitoring,* which helps to define and monitor Key Performance Indicators, in the aspect of measuring how the gamification design is affecting the business goals. *Gamification Element Analysis* supports the monitoring of the gamification elements and makes it possible to identify which types of users that are attracted to certain game elements. *User Groups of Interest* assist in the discovery and definition of the involved user groups that are affected. *Gamification Design Adaption* involves performing experiments on the user groups to study effects on the user behaviour, and how it is affecting the KPIs. *Simulation* enables simulation of concrete gamification elements combined with the user behaviour results. (Heilbrunn et al., 2014a)

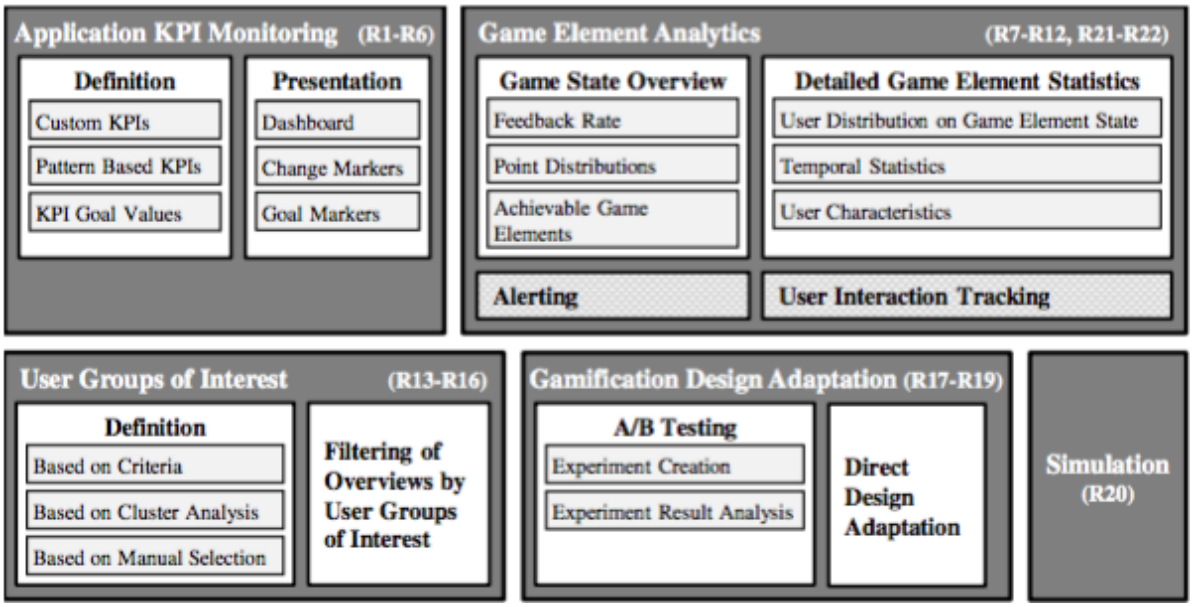

Figure 18: Heilbrunn, Herzig & Shill's (2014a) User Requirement Model for Gamification Analytics.

Heilbrunn et al. (2014a) claims that tools to support the monitoring and adaptation of gamification projects are lacking. Their study showed that gamification experts used self-made methods for measuring, monitoring and adapting the gamification project, although different solutions do exist. In their survey paper, Heilbrunn et al. (2014b) conducts a review of the existing solutions in gamification and also in the game domain, to analyze if the solutions are supporting the five categories in their theoretical model. Heilbrunn et al. (2014b) identified three gamification analytics tools and seven tools for analyzing games. The result showed that none of the studied solutions fulfilled all of the user requirements and that the existing solutions offers a rather thin analytic support.

4.5.2 Octalysis Score

One way to measure the extent of all of the eight core drives in a gamified system is to calculate the Octalysis score (Chou, 2015). The purpose of the score is to help gamification experts evaluate their product, in order to predict user behavior. Chou (2015) states that a good gamification design don't necessarily have to incorporate all of the core drives, as some systems do well with different kinds of drives.

Octalysis score is based on a point system, where one makes an assumption on how much each one of the core drives are implemented in the system and assigns a number between one and ten. These numbers are then squared and the total results is the Octalysis score. The purpose with this measuring system is that is becomes clearer which core drive is lacking and therefore what type of alteration that need to be done. (Chou, 2015)

4.6 The important core loop

It is highly important to identify the core loop in game- and gamification design. The core loop is absolutely fundamental in game design and the most important part to care for in order to achieve success. The core loop is a chain of activities which the player is primarily expected to be performing in a game. In the game Clash of Clans (Figure 19) it could be to build up your troops, attack your neighbor, build up defenses, attacks your enemy and so on. This core loop make you end up playing a great game. Similarly, the core loop could in a classic shooting game like Call of Duty (Figure 20) be a series of jumping, shooting, aiming, hiding and running. (Kim, 2015)

Figure 19: The game Clash of Clans, picture taken from clashofclansfreegems.net.

A frequent and common problem people make, is to not identifying the core loop before moving on to other parts of the design. This is equal to shooting yourself in the foot when designing games and gamification. The designers becomes very excited about their design and can not endure to create, test, iterate and tune the core loop before starting looking at all the exciting side stuff. The side stuff are supposed to be looked into after the core loop is settled. It is a possibility that the core loop can be very hard to identify, and that you may have go through and test multiple core loops before settling with one. (Kim, 2015)

Continued on the next page

Figure 20: The game Call of Duty, picture taken from gamingnexus.com.

4.7 Enterprise Gamification Critique and Pitfalls

Researchers who are focusing on games are in general critical to gamification. This especially because of the word 'game' being confusing. The word game automatically relates to an enjoyable experience and gamification uses only the most uninteresting part of game design, e.g. the scoring system, and leaves out the playing-part somewhere in the background. A scoring system is not the optimal way to engage users and organizations can adopt the concept without being aware of the long term problems. The problems can occur when using external motivation in gamification to engage employees, making them completely dependant on a reward to keep their motivation going, meaning ending up in a reward loop which once implemented, has to keep going. (Nicholson, 2012)

Gamification can with its extrinsic rewards and recognition, possibly make users less motivated if they already have high intrinsic motivation (Glover, 2013). This state is called the *Overjustification effect* (ibid). Glover (ibid) argues that the learning process in gamified elements should be optional due to the possibility of actually making already motivated users less effective. Sager (1979) supports this and means that self-motivated employees are already performing at their best and overmanagement can make them frustrated. In addition, the gamified system can lead to a compulsive behaviour among people. Glover (2013) describes how a learner type of person can be overly occupied by trying to get every point, reward, remaining on top of the score-board, and so on. Glover (ibid) means that this should be handled by limiting the possibilities of getting to many rewards in a specific timeframe.

4.7.1 The Seven Deadly Sins

Marigo Raftopoulos has a critical approach to gamification and through constructive criticism she questions gamification as a solution to improve productivity and innovation in enterprises. Raftopoulos works in the gamification-field herself and has done research on the possible ethical issues that comes along with gamification in enterprise settings. Raftopoulos (2014) states that gamification is "*being sold as a seductive alternative to more traditional forms of staff engagement, process improvement and organizational design*" (p.160), but actually is working as a persuasive technology. She means that gamification, just as

traditional enterprise management, can be exploitative and the degree of it is depending on *"the inherent values, intent and transparency of the system design."* (p.160). Raftopoulos (2014) emphasizes the risks when adopting gamification in enterprise settings. She accentuates that if gamification is not used properly, it can backfire badly and destroy value. If it backfires, it can provoke the value destruction items Raftopoulos (2014) present as *The Seven Deadly Sins:*

- **Coercive Participation**
  Games relies on the player's own free will to play a game. This is supposed to be transferred into the gamification solution in enterprises. However, the experience and effectiveness of the gamification strategy is interfered by even the slightest constraint on the user to play, and people at work are often pressured and aware of the possibility of them being studied, measured and evaluated.
- **Leaky Container Problem**
  Leaky container refers to that data in one application can be transferred to other applications, and be of use for other purposes than it was originally used for. An example of this is the use of surveillance cameras, as they are supposed to watch for shoplifting or other crimes, but how they also can influence their staffs behaviour when they know that they are being monitored.
- **Technological Whip**
  Gamified enterprise applications can be developed to function as a technological whip. In this case enterprise gamification is used to *"maintain the enterprise's existing social construct, with the added sweetener of play and games into the mix."* (p. 166).
- **Homogenisation of the workforce**
  Gamification can be used to control people. This relates to data collection and data mining in gameplay, where player dossiers are provided to developers in order for them to develop new things that are meaningful to the players, e.g. improved game design. However, with data mining and data collection also comes issues on misuse and ethics, where more information than the player may know of is being collected from a number of devices and domains. The misuse of collecting data can in gamification be a way to homogenize and control employees, which is not proven to be neither justified nor appropriate to do.
- **Loss of human agency**
  The power of gamification lies partly in the graphic interface of the application, where a playful and gameful interface can make a player feel trust to the application. Human-to-human interaction are more and more developing to human-computer interaction, where the first is used as a model for the second. This situation has raised concerns that we are losing our agency which will cause reduced work experiences and enjoyment because we do not need to meet face-to-face at work anymore.
- **Illusion of change**
  Gamification has the power to change the nature of how tasks are performed at the workplace. However, it is important to not observe gamification as a game layer

applied on the context, and expect that it would automatically make employees behave in a specific way. A transformation of the workplace and processes is a far more complicated task. If not applied properly, gamification can give an illusion of change, more than an actual change of the current enterprise structures and processes.

- **Shallow and inauthentic**
  Having fun at work is not the same thing as having fun in other contexts. They do correspond in intention and desire to motivate, but *having fun at work* is more about distracting the employee from the organization's control-mechanisms and getting more control. If the organization fails in its attempt on making work fun, it will show in dissatisfied and disillusioned employees. They will see the poor work practices that was the reason to implement the fun elements at work in the first place.
  Reference: Raftopoulos (2015)

5. Result of Interviews

This chapter presents the result of the interviews. The answers have been divided into this thesis' focus areas in the same fashion as the literature study, to easily get an overview and apprehension of the respondents' opinions concerning these themes. If a respondent did not have an opinion on a specific theme, it has been left out from that section. A section has been added in this chapter, *5.5 How to succeed with gamification*, where the respondents' general opinions on how to successfully implement enterprise gamification is presented. The respondents go under alias and are labeled as I1, I2 and I3. The interviews were performed in Swedish and therefore their statements and quotes are translated.

- I1 is a project manager and gamification expert at a global IT-consulting company. I1 runs a gamification podcast and frequently holds gamification lectures.

- I2 is the CEO and founder of a gamification solution company. I2 got interested in gamification long before there was a term for it and has had a genuine interest in the field for many years now.

- I3 studied gamification on a bachelor level. The thesis gained attention and I3 held some lectures about gamification afterwards. I3 has on occasions worked with gamification.

5.1 Player Journey

I1: The first step in a player journey is to attract them and get them interested in using the system. The common approach at this stage is to motivate users externally. The external motivation can be quite shallow, and e.g offer the user a reward of some kind in exchange for their engagement in the system. The next challenge is to keep the user engaged through a feedback loop and encouraging them to stay. Most of the work takes place in the repetitive feedback loop and this is where the design decisions place a vital part in keeping the user

motivated. It's important to provide feedback at this stage by presenting new challenges to the user and stimulate curiosity and interest. Another important aspect at this stage is to understand that users needs to be gradually challenged. A new user should be easily validated and for the tasks to be quite simple, in order to prevent demotivation. However, an more experience user will be more appealed to difficult tasks, otherwise they will be bored and lose interest in the gamified system. In a similar fashion as in games, it's crucial that you constantly need to create more challenges that will fit the user experience and continuously give the user the opportunity to grow and feel a sense of accomplishment.

The goal of the player journey is to make the user reach the endgame stage and to become an expert. "*But in the end, understand why this is important to me, I become a better person and I learn things, I grow as a person and then the other stuff starts to become less important, because I'm already converted, I am already onboard"* (I1, 2016). To convert the user to the last stage is imperative, because this is where the user get motivated internally and when the external rewards aren't as necessary anymore. The internal motivation makes the user understand why the use of the gamified system is important and how it educates them or how they can thrive as a user. When the user has reached the expert stage in the player journey, he/she can help other users to engage in the system and finally, help them to convert.

I2: I2 draws parallels to e-Commerce and regular stores. *"If you have a store, a clothing-shop, when a customer comes into the store, then your goal is probably to make the customer buy your products. Then we have an early loop here. When the customer comes into the store, we have placed out the products, and reflected over this, to create a pleasant experience. Then we can follow and evaluate the user, or the potential customer that comes into the store, to evaluate if it was a successful purchase, and so on."* (I2, 2016). I2 means that we can analyze this since it is rather conceptualized, where we can follow up what happens if the pants are being sold at another shelf, or the milks' placement in the grocery store is changed. This is a common reasoning in order to try to optimize the sales. The same goes for e-Commerce, where we can follow the behaviour a bit more, e.g. how the user found the store, and based on that, develop other things and evaluate the user's' purchase behaviour. *"So this is a loop, a purchase-behaviour loop which we optimize to sell a product [...] an on-going loop that is frequently optimized. We analyze and optimize"* (I2, 2016). Similar loops are everywhere, not only in e-Commerce and physical stores, but there are also comparable loops just around the corner where you live.

"If we take this way of thinking and apply it on a gamification project, then we have to break it down and see which loops we can find there. It could be an onboarding-loop where people are on-boarding our solution, meaning gets information, and now it is time to begin, this is the start. [...] Then we can examine how to optimize this loop and then divide the gamification project into small loops, build key performance indicators for them, so it is possible to evaluate and follow up." (I2, 2016).

If one wants to change or enhance a user-behaviour, the user needs to learn something new. This could be performed through e.g. education- and competition-loops. Then for every loop, one can observe what has been achieved, what information has been distributed, what behaviour came out of it, and evaluate it. This can later be applied on the whole project.

5.2 Player Types

I1: The game mechanisms that are used in a gamification project are going to be based on the culture and the player types. Different people can be motivated for different reasons. To know the player types and what core drive they are motivated by, you have to make an assumption. It's a difficult task to figure out how the users reacts individually towards different gamification mechanisms, therefore you have to make a overall presumption on which player types that are involved in the gamified system. This assumption will later be tested and if needed, changed to fit the player types better. "*For it is also true that, if you going to design for all, then it will become very general. It will be very difficult, therefore you have to kind of choose a type of targeting"* (I1, 2016).

Andrzej Marczewski has developed inspirational cards and a game board that can be used as a basis for discussion about player types with stakeholders and project leaders. During this discussion you will look at different player types, what they are usually motivated by and make the assumption in what types that exists in the workplace. Another important aspect to take into consideration is, what types of player do you want to have and what kind of behaviour do you want to encourage. If you want to design a gamified system for everyone, it will naturally become quite general, so it's preferred to decide on what type of focus you want to have.

I2: If one solution is supposed to fit different types of users, then one will observe different kinds of results. One will observe different behaviours depending on what happens, and also depending on the influence of surrounding factors. *"There are many ways to evaluate users. There are many who invents new ways frequently. But again, it is the user who decides, so in the best of world one would have a personalized system that learns more everyday"* (I2, 2016). It is extremely important to adjust the user experience, and it is the user who decides whether the system is good or not.

I2 speculates about what if you could though Internet of Things and things like that, create devices that could evaluate how the user is feeling that day, and connect that to a system that adjusts the every-day life depending on how the user is feeling. This could create a situation where when the user is positive and happy it may launch a selling-competition. Moreover *"when you have a bad day, like we all have from time to time, then it is just.. then you may take it easy and work with more administrative tasks, and so on"* (I2, 2016).

I3: In gamification projects one has to know their audience, who has a use of the system and who are they. If the users are attracted by statistics, then one knows it is a collector, meaning someone who likes to collect things and compare. It does not always have to be a competition. However, with a general group it is hard to take player types into consideration, but in more specific groups one can make some assumptions.

5.3 User Motivation & Rewards

I1: Gamification is very common in sales context and are used to inspire people to compete against each other in who will sell most products. This competitiveness is incorporated in the sales culture, because if your sales number are high this will result in you getting a higher commission. However, this is not applicable in every workplace, thus some people may not be driven by the competitiveness element and will maybe react negatively towards this. As

previously stated, different mechanisms motivates different player types and affects their behaviour in various ways. Sometimes it's common that you think that the users are motivated by something, but after testing it, you realise that it was something entirely different. *"You can make an assumption that you have users who are motivated by certain things, but then when you are testing it, you'll notice that they were not all that eager to compete or they didn't really like the social aspect, instead they thought it was more important to check their own progress, the accomplishment drive"* (I1, 2016). To test what types of drive cores that a gamified system has incorporated, you can use Chou's tool. This can be used to reverse engineer a system, in hopes of discover what types of motivational factors that are used and what kind of drives that you want to use. But users may not behave in a way that you predicted, for human beings are rather irrational, some may not follow the processes as they are intended to be follow. Some may think that they know better and has a different approach in how they do things, because they found their own way to be more motivating. Some people need to know the task's purpose to feel motivated to do it. For example, if one is acquired to fill out a report and questions whether someone are actually reading it or not, can feel discouraged by doing this.

I2: A classic example in gamification is the competition part of it. Some users wants to compete against themselves, and others are being triggered by competition against someone else. However, the problem is that those who performs great in competitions can lose their motivation when they are always at the top of the leaderboard, because there are no one to compete against. Therefore, it is important to take this into consideration and also backgrounds, culture, where the users are from, and so on. The human brain has changed since the stone-age and also the fundamental behaviours. Those behaviours are what gamification enhances and therefore there is not anything new with gamification, since it has always existed. Gamification is only a conceptualisation and a package of what is already natural in the human being. It is about catching the users and make him or her experience the wow-factor. It can not be on top all the time, but is is a matter of balance, and this is what the games are great at.

To motivate the users one can use leveling-systems, diplomas, leaderboards and experience points, to direct the users towards a desired behaviour. Moreover, one can use a virtual currency that can be exchanged to real stuff the user wants. This motivates the user to use the system more, to create a feeling that the more the user uses the system, the more he or her get back from the system in the form of rewards.

"What is it that works, what is it that catches the users, why do people play games without any meaning whatsoever, more than the temporary fun experience? It does not get any.. We cannot shop for food in exchange for what we do there (in games)". (I2, 2016)

I3: The components from the psychology behind gamification is evolving more and more without it being called gamification. What happens is simply that designers, or UX-people, are starting to think along those lines. Components like badges, positive feedback, reward systems and so on, are being taken from the psychology behind gamification and are being adopted. It is a part in everything and there is a great need for it.

A great part of gamification is statistics, to be able to compare the own performance to others, some users are motivated by that. Although it should exist a bit in the dark, meaning

those who actually want to access it can access it. Some people are arguing that there is no such things as external motivation, that it is always about the internal ones. When money is the motivation, that it is an internal motivation. Although, I3 believes internal and external motivation can be separated pretty easily and in the scenario above it becomes very clear.

5.4 Manage, Monitor & Measure

I1: To estimate the impact of gamification changes, it's necessary to create key performance indicators. These indicators make it possible to map out the effects of the gamification, before and after. To better understand what type of modification that affected the outcome in a particular way, it's a good idea to implement these change, one by one, for this makes it easier to study the impact of a certain gamification mechanism. If one are to implement all of the gamification mechanisms at once, it's harder to understand what type of changes that were successful and which ones that were not. The incremental release of the gamification mechanisms can also be used to keep the user's interest, due to that the gamified system keeps on offering the user new things to do. The measurement indicators can also be used to evaluate parts of the system where the impact or the user's behavior are unknown and could result in a better understanding on user motivation.

Furthermore, before releasing the gamified system to the actual users, one should prototype and present it to a group of test users. The customer or the owner of the gamified system will ultimately have to decide whether or not the testing will take place and aspects, such as budget, will play a big part in this decision. When the system is implemented, it will require managing and monitoring. *"It's interesting, you can calibrate forever and try different things and it never really gets finished, at least not until the user reaches the endgame phase"* (I1, 2016).

I2: To evaluate a gamification system one can optimize different loops. This means to build key performance indicators for small loops, to be able to evaluate, analyse and follow them up. Then one can analyse what has been achieved, what information that is being distributed, and what behaviours that are being developed. Furthermore, this can be evaluated and applied to the whole project. This could be related to a grocery store where the milk is being moved around to analyse the customer's behaviour, in order to do things better.

5.5 How to succeed with gamification

I1: One key factor for a successful gamification project is to identify and define the organizational problem and what types of improvements that needs to be done. A common mistake is that the focus lies too much on the solution and not enough on the actual problem, and that we start out with the wrong mindset. Thus, it's essential to break down the problem in smaller bits and find the purpose of the gamification changes. Gamification are usually viewed as something fun and something that can be implemented without a clear understanding on what type of problems is should solve or how to align it with business goals. Therefore it's important to establish distinct key performance indicators in order to successfully study whether the business goals are fulfilled. The optimal path to a successful gamification project is to identify business goals that will create revenue and to define user goals in order to understand how to motivate engagement. The users are the ones that's going

to use the system, and their perspectives tend to get forgotten. Management usually focus on the business goals and how to maximize profit, which results in that the user needs comes in last. *"Quite often in a lot of context, users tend to be forgotten. Or that management think that they have enough understanding of the users to be able to make decisions"* (I1, 2016). The users are the most important ingredient in any gamification process for they are the ones who will be using it on a daily basis.

Motivating is what gamification is all about, and the best way to that is providing feedback based on valuable data. We do that by identifying central activities in the system. We call these activities Core Loops. Failing with finding these loops and thus, failing to keep the user engage in the system until they reach the endgame stage, is a factor for failure. How you motivate users in the feedback loop is also a deal breaker, and that's why you need to plan for sustainable gamification. If you start out strong by giving out generous prizes to users, they will not be happy if the value of the reward decreases. This could in some cases lead to that the system becomes worse than before implementing the gamification solution. A good way of motivating users is to address team spirit, and to make sure leaderboards, if used, are as dynamic as possible.

A gamification solution will always need testing and maintenance. You can not fail until you'd tried everything, and it's when you decide that you don't want to try anymore, that you actually have failed. As Thomas A. Edison said: *'I have not failed. I've just found 10,000 ways that won't work'.*

I2: *"There are many failed gamification-projects out there. My personal apprehension is that those who did this early, before gamification was a concept, a buzzword, people started to think that they would make money with this. Then one builds a model who supports the short-term simple motivation enhancement, and gets it going there. But then to get a long-term engagement going, and make everything work together, it makes [...] it makes the users captured and then this quickly cools off. Then it is hard to get it going again and take it further. It is extremely important to do the right thing there in the design process, because the users sees through this otherwise. It is a group that does the judging, it is those who will use the system, end of discussion. Otherwise there is something else you are engaging in. Do the homework, you have to understand this extremely well, if it is going to be good"* (I2, 2016)

However, it was not only the ones who adopted gamification early who failed. *"I believe that those who started delivering gamification-solutions did in in the form of quick-fixes, something they put together in order to sell gamification-solutions. They only partly did the homework, and therefore they did not develop an accurate understanding on how to work successfully with gamification-solutions."* (I2, 2016) One needs to identify the challenges, understand all parts involved, what they want to do and their purposes (i.e. increase revenue). This can be related to building a house, the plan has to be well planned or the house building can become very expensive. Furthermore it has to be designed properly and get a long term engagement going. It has to work as a whole. Gamification has always been an obvious way of doing things and it is common sense, but it needs to be properly adopted. Gamification will be an important part in everything since it is a central part in user experience. Gamification as a concept may disappear, but it is what one does with it that will

keep working. Games will never stop working and that the gaming-world, other system-worlds, and the tools one has at work, will merge together. The user interface in systems will be comparable to a gaming-world. If one has no users, no one will buy it, and in turn will not be sellable.

Two different systems could perform the same tasks, but if one has a more attractive user experience it can return a better ROI (Return of Investment) since the users will always choose the more fun and simpler way to do things (Figure 21).

Figure 21: I2 relates to this picture when discussing how the users will always choose an attractive user experience over an attractive design. Picture taken from pinterest.com

One can not use gamification as just a superficial layer or only gamify certain parts. It is not a short-term solution to generate easy money. There are literature where they are talking about 'gamification salt', which refers to the false apprehension that if one sprinkles a little gamification over something then everything will be fine. This could work in the short-term, but the effect of it will be constrained.

In order to succeed with gamification one has to dig deeper into it. Otherwise the users will see through the salt and cause a situation where there will be a peak where the users are falling in love with the system, but this excitement very soon cools off when the users are noticing the poor structure behind it. If the users are not satisfied it can not be considered a proper system. If one starts to implement external motivation and then removes them, it will be extremely hard to motivate the users since the external motivation runs over the internal motivation.

I3: There is an interest for it, especially in education. It is a natural component in creating additional value of many services under the same flag, i.e. plus-memberships on one service can give discounts on another. However, sometimes it can be hard to see the value in it. Furthermore it is a natural way of today's' strategic thinking. The components are used to a greater extent, since it is an obvious way of doing things without classifying it as gamification.

One should use minimal valuable product in a gamification project, to base the project on that instead of doing everything at once. When one is starting to yawn after too much, that is when the project will fall.

It is hard for the customer, the buyer, to understand what gamification is and how it can bring a business advantage. *"I have not yet seen a hands-on example where a customer is actually paying to review gamification and implement something real"* (I3, 2016). One has to observe the parts as a whole, not only adopting the simplest parts. However, large companies are often focusing on ways to make money, not focusing on a whole and engagement. The problem with gamification is that is not possible to prove that implementing something will result in increasing revenue, that there is not something concrete to prove it.

In every industry it is the core business one is supposed to focus on, since this is the foundation of the business existing at all. However, I3 has observed examples where one tries to adjust the content after the gamified parts and therefore gets a bit lost. The core business is always supposed to be the focus, and if one adopt gamification it is not supposed to take over the core business.

6. Analysis

In the analysis chapter we aim to identify connections, cause-and-effect relationships, agreements, disagreements, opinions, standpoints and search for patterns concerning our research questions. This chapter is divided into two sections. The first section focus on successful enterprise gamification in general, and the other section focus mainly on employee motivation, engagement and rewards.

6.1 How to succeed with enterprise gamification

Gamification is being advertised as an exciting way to make work more fun, instead of the traditional form of work (Raftopoulos, 2014). In order succeed with gamification you have to look at the system as a whole and not simply apply a gamification layer (Raftopoulos, 2014; I2, 2016). I2 (2016) emphasizes the importance of understanding that you cannot gamify only some parts of the organization, and that gamification is not a short-term solution because you cannot simply scratch the surface. Gamification can be misused as a persuasive technology and could destroy value if not implemented carefully (Raftopoulos, 2015). We do observe a cause-and-effect relationship between an hasty and ad-hoc enterprise gamification implementation and failure. This because there seems to be a mutual understanding among the respondents (I1, 2016; I2, 2016) and the literature (Raftopoulos, 2015) that gamification is not simply a fun layer which enterprises can implement as a quick fix to their problems. Although, we came across a case study where Jurado et al. (2015) found the contrary, that implementation of a few game elements as e.g leaderboard, had a positive effect on the employee's motivation.

An organizational change is usually performed when some part of the organization is not working as desired. A common mistake when implementing gamification is that the focus lies on the solution instead of the actual problem (I1, 2016). This aspect is associated with Raftopoulos (2014) statement about how people believes that a *gamification layer* is enough to solve organizational problems. When implementing gamification, organizations tend to focus mainly on the solution, and often have an idea beforehand of what kind of game

elements they want to incorporate (I1, 2016). Businesses need to profit financially in order to prosper, and although there are other important aspects in order to achieve a successful business, the economical growth is the most fundamental. Otherwise the company will go bankrupt, it is as simple as that. Therefore, it is vital that the gamification solution is aligned with business goals and aims to solve organizational problems (I1, 2016; I3, 2016). However, I3 (2016) claims that the problem with gamification is that it is hard to prove that it really do increase revenue. Furthermore, this cannot be the only reason why an enterprise should implement gamification. They have to consider the employee's goals as well (I1, 2016), thus if you only plan short-term to generate easy money, this will eventually become evident to the users (I2, 2016).

The result from the literature and the interviews showed that there is always some kind of repetitive feedback loop in some stage of the player journey. Werbach & Hunter (2012) identified this loop in the scaffolding phase. Chou (2015) agreed, describing it as getting as many *Win-States* as possible, and Kim (2014) presented the activity loops and feedback systems in the habit-building stage. The majority described this feedback loop as the most important part in the implementation of the gamification and that it requires a lot of work (Chou, 2015; Marczewski, 2015; I1, 2016; I2, 2016). Chou (2015) and Marczewski (2015) states that during the stage of where the feedback loop exists, user drop-out usually occurs due to failing in keeping the user motivated. I2 (2016) describes this in a similar fashion, with the description of the "customer path", in which I2 (ibid) refers to how to optimize the loop to sell products to a customer in order to maximize the profit. I2 (ibid) continues to state that this loop can later be analyzed and optimized, in order to understand how to make improvements.

Identifying the core-loop is crucial to successful gamification design (Kim, 2015). The core-loop contains the primary tasks the user will perform in the system, and it forms the chain of activities that will keep up the user's engagement. If this loop is not clearly identified, then it will be a poor foundation to build the system upon. If this loop is not clearly identified, it is impossible to know the reason for the systems' existence or what is is primarily suppose to do. Similarly, in every organization it is always the core business that is the focus (I3), because it is the reason for the organisation's existence. For example, if a construction business starts doing painting as a side business, the company will not become a painting business because of it. There has to be a distinction between the core loop and side loops in order to succeed. Therefore, enterprises should not adjust the core business after the gamified parts, which do happen from time to time (I3, 2016).

Kumar and Herger (2013) claims that gamification needs to be viewed as an ongoing program, due to the need for maintenance, measuring and monitoring. They state that these three aspects are important, because the gamified system needs to be continuously adapted to business goals and monitor user motivation in order to prevent player fatigue. I1 (2016) and Winn (2007) agrees with Kumar and Herger (2013) and explains that to keep the user interested and excited, one has to release e.g new challenges incrementally. This approach also makes it easier to detect what type of changes that are causing certain effects (I1, 2016). To gain knowledge of the results of the changes, one can also use key performance indicators (I1, 2016; I2, 2016). These KPI's are useful when measuring whether or not the gamified

system aligns with the business goal and creates revenue (Kumar & Herger, 2013; I1, 2016; Heilbrunn et al., 2014a). There is a lack of tools for evaluating and managing gamification solutions, and those that exists are inadequate (Heilbrunn et al., 2014a).

6.2 Employee engagement and motivation

Gamification is highly dependant on the user (I1, 2016; I2, 2016). The user is the one who will judge whether the system is satisfying or not (I2, 2016). The same goes for games and game design, where it does not matter how well the game is designed to create an enjoyable experience (Csikszentmihalyi, 1990). If the user does not enjoy it, it can only be considered a failure (I2, 2016; Csikszentmihalyi, 1990). All human beings are individuals and have their own requirements to feel motivated. There is no universal way that works on everyone (Ferro et al.,2013; Bartle, 1996; Ryan & Deci, 2000; Chou, 2015; I1, 2016, Nicholson, 2013; Buckingham, 2005), and that is an important fact that needs to be accepted and respected. We do observe a relationship between successful enterprise gamification and user involvement, this due to their importance as judges, but also to have their motivational drives included in the system. Obviously, this fact creates a problem when the management wants to implement gamification in order to motivate their employees. Motivation can not be activated on demand and individuals are simply not motivated by the same things (Ferro et al.,2013; Bartle, 1996; Ryan & Deci, 2000; Chou, 2015; I1, 2016, Nicholson, 2013; Buckingham, 2005). This implies that the management needs to take the employee's' differences into consideration when implementing gamification at the workplace. Core drives is one factor that needs to be evaluated to achieve successful gamification (Chou, 2015). There is also a need for a balance between negative and positive drives to succeed, and one needs to consider all the core drives (ibid).

However, there are many individuals to take into consideration in enterprises, and a gamification system can due to practical reasons, not pay attention to every single employee's' preferences, drives and motivations (I2, 2016). This would require an individualised system for everyone, and that can only happen in the best of worlds (ibid). Therefore, to implement gamification with these issues into account, one has to make some assumptions (I1, 2016; I2, 2016; I3, 2016) which in turn can be evaluated (I1, 2016; I2, 2016) and tuned after observed effects. These assumptions are easier to make with specific groups than general groups (I3, 2016). It obviously exists a dilemma here, where on one hand the management needs to make assumptions, and on the other hand include and consider their employees' motivational drives.

The player journey is an important factor for successful gamification, this to catch the user's interest for the system, and keep the user motivated using the system in the long run (Chou, 2015; Marczewski, 2015). The users' motivation will continuously increase and decrease based on knowledge and familiarity with the system, among other things (Chou, 2015). Therefore, it is important that the gamified system is developed to keep up with this motivational-curve. If the system can not handle this curve the user will lose its engagement in the system and stop using it, and that is definitely considered as a failure.

Gamification is built on the foundation of user engagement and their desire to use the system. If the tasks are too simple and the system does not provide a challenge in this state,

the user will be bored and unsatisfied. The player journey focuses on guiding the user towards an expert-level, where the user gets an internal motivation to use the system (I1, 2016) by using different motivational elements at each stage (Chou, 2015). When a user reaches the expert-stage, the player has achieved an inner motivation to use the system and will help others get involved in it (I1, 2016). By taking advantage of the player journey, and by breaking down the stages into small loops, one can evaluate, optimize and follow up each loop to enhance a desired user behaviour (I2, 2016). One can also monitor player motivation through interviews and observations (Kumar & Heger, 2013).

Gamification design is based on game elements, and is for this reason facing many of the same problems as game development does. In game design it is important to balance factors as e.g. difficulty, rewards and progression, to keep the player motivated to continue playing the game. This is also related to the player journey. The player needs to face a challenge adjusted to fit a certain part in the game to keep him or her from getting bored (Csikszentmihalyi, 1990; I1, 2016). An experienced player will need a more challenging task than a beginner to feel accomplishment (Csikszentmihalyi, 1990; I1, 2016), and in steeper parts of the learning curve, the rewards and feedback needs to be increased in order for the user to feel motivated (Winn, 2009; I1, 2016). The player also needs to get an appropriate amount of choices at certain parts in the game, to not be overwhelmed early in the game (Winn, 2009). This is about getting the player into an achievement loop where he or she gains new skills and achieve goals (ibid). The player journey is crucial for employee motivation in enterprise gamification, and it could be the difference between success and failure. The user needs to feel that the system is exciting to use. In order for that to be achieved, the system has to be intelligent enough to handle the user's high's and low's in motivation, and consider where the user is in the player journey curve.

Rewards provided to the employees is a common way in organizations to deal with motivational and performance issues (Özutku, 2012). An organization may launch a selling competition between their offices, and the office who increases their revenue the most wins a trip for its employees. This is an example of an external reward, and external rewards can destroy value by creating a stressed and pressed situation where the playful approach is taken away and people are afraid to fail (Gunderman, 2011). Those types of rewards do limit a creative process and have a negative effect on internal motivation (Deci et al., 1999; Gunderman, 2011). This could be devastating in a task that requires the performer to be creative, think outside the box and dare to take risks.

There are consequences due to external rewards and one of them is that the staff will not appreciate if the value of external rewards is decreasing or disappears (I1, 2016; I2, 2016), resulting in a reward-loop that is hard, if not impossible, to separate from. The employees may become completely dependent on external rewards (Nicholson, 2012). Moreover, there is the *Overjustification Effect,* meaning those who already are motivated and performing their best can be frustrated by being encouraged to work harder by the introduction of external rewards (Glover,2013; Sager, 1979). A task that was already internally motivating for the employees to perform, may suddenly be considered boring if external rewards are applied to it (Gunderman, 2011; Chou, 2015). On the other hand, Gunderman (2011) emphasizes that in

some occasions and certain workplaces, external rewards may be necessary and the only way to motivate employees and enhance performance, e.g. in line work.

Moving on to internal rewards. It is interesting how individuals can engage themselves in hobbies, activities and club activities without gaining any profit from it (Gunderman, 2011) besides being satisfied, happy and proud. There obviously seems to exist some natural drive in humans to be motivated by performance. What the desire may be is definitely individual and can consist of several different things. Some people, e.g. ex-criminals, may feel an internal motivation to change their lives and doing charity work in order to feel like he or she is doing something good and giving something back to the community.

If an organization is considering to implement gamification to motivate their employees, it is important that the management understands their role in employee motivation. Most of the time, the management can't force individuals to act or change their character (Shanks, 2007; Nicholson, 2003). That is something that simply has to be accepted. They can however, create a favorable environment, remove barriers, turn talent into performance, and put right people in the right places. Moreover, by knowing what they are motivated by and interested in, make them perform in a desired way (Sager 1979; Buckingham, 2005; Nicholson, 2003). By taking advantage of these things, and understanding their role in their employee's motivation, enterprise gamification will have a much higher chance to succeed. If the management do not understand these factors and take their staff's motivation for granted, it will give rise to problems. Gamification relies on the user's motivation, and if the user's interests and motivational factors are not used in the system, there will be no room for them to enhance or use their strengths. This will create a lot of disappointment.

One of gamifications' trademarks is competition (I1, 2016; I2, 2016), which is especially common to take advantage of in sale contexts (I1, 2016). Sometimes users want to compete against themselves, and sometimes against others (I2, 2016). Competitive elements can enhance motivation and performance, but they can also backfire and create stressed and frustrated employees. The management may launch a selling competition without really knowing that the employees will appreciate it, or even perform better by it. One cannot simply assume that a competitive environment will enhance performance, not even when the employees work as sellers. Similarly, those who are motivated by competition and will enhance their performance, may lose their motivation and effectiveness if they are always the best and does not face a proper challenge (I2, 2016). Therefore, in order to use gamifications' competitive elements, the competition must be desired from many to actually get a return from it. If there are external rewards on top of a competition it can create a even worse climate at the workplace, with employees who do not want to share their knowledge with each other, gets in conflicts if a colleague "steals" a customer (I3, 2016), and becomes egoistic, only performing tasks because of their own benefit. A better way of using competition to motivate employees is by team spirit, dynamic leaderboards and communication-tools (I1, 2016).

7. Discussion

In this chapter we discuss the analysis of our result and present our own thoughts and opinions concerning our research questions on enterprise gamification and sustainable employee motivation. We aim to explain the connections, relationships and patterns we have observed in the study on a more detailed level and discuss them more carefully from our own perspective. This chapter is divided into sections, one for each research question, and also a final section that concerns the development of our own enterprise gamification evaluation framework.

7.1 Which factors result in successful gamification in enterprise settings?

It becomes clear when reading various literature, talking to people and listening to interviews, that there exists a general perception that gamification is something fun and uncomplicated. That gamification is something that works for everyone and can be implemented in an organization to magically motivate the employees to work harder. This approach manifests itself when the implementation of gamification comes with a predefined solution, e.g the use of badges, medals and leaderboards. This is a classic interpretation that lead people to believe that gamification is something that can be added into the organization as a user interface and simply just a layer. Some case studies with this type of approach have on the other hand showed good results by only adding a few game elements, and demonstrated that the employees actually have been motivated. However, one has to take into consideration that most of these studies have been conducted over a short period of time, and that this factor can affect the outcome of the result. Gamification not something that is applied for a short period of time, for it is something that is supposed to work in line with business goals and work as an integrated part of the enterprise in the long term. Therefore, the results of short-period studies on enterprise gamification is not something that should be considered accurate. One of the challenges with successful gamification is to continuously keep the users motivated and when it's not studied over time, this important factor cannot be measured and therefore give an false assumption about what works and what doesn't.

On the other hand, this approach might be the reason why leaders and management does not observe gamification as something that can create revenue. This could be the reason why enterprises are resilient to put in the work and capital needed in order to succeed. In order for enterprise gamification to succeed one has to understand that you cannot simply dust a little gamification salt without fully committing to what you are intending to do. We do see a pattern in our result that this will simply create annoyed employees, who may feel that gamification is simply an unambitious and unsatisfying way to try to monitor them to be more effective. If the employees are considering gamification to be implemented for this reason, it could be a hard hit to them if there are underlying issues that needs to be dealt with in order for the staff to be more motivated to work. Social and fun elements implemented in the workplace may not be what the employees requests in order to enhance their performance.

As stated previously, it is crucial to observe gamification as a whole and hence understand that it should be integrated in the organization. Although, the first priority should be to create a gamified solution that aims to solve organizational problems. A common mistake is that the focus lies on the solution instead of the problem. In order to successfully implement gamification one needs to identify the problems and create a long term plan for the gamification solution, rather than deciding what type of game elements one want to use. The focus should lie on determining the organizational problems. As the first step one should break down the problems, and establish a long-term plan for what type of gamification solution that are best suited for the enterprise and its employees. Otherwise, the management will not see the value in the changes gamification is going to make in the workplace, and will probably not make it an integrated part within the organization.

The most important factor in succeeding with enterprise gamification is to keep the users motivated to use the gamified system, and this factor is most crucial during the feedback loop. Of course, it's important to motivate the user in every step of the way towards an inner motivation to use the system, but the feedback loop usually occurs after the user has already been through the discovery and onboarding phase. It is rather simple to entice users to try something, and offer rewards in return, but to get them to stay and come back every day demands more thorough work. The purpose of the feedback loop is to keep the user motivated to use the gamified system, with the use of different motivation techniques. The decisions made in this loop plays a big part in whether the gamification becomes a success or not. One should start out by identifying where the loop occurs, work out a base for the common user, and create repetitive activities. This loop should in turn consist of nested loops that are specified to different users, according to their level of skill and preferences. Finally there has to exist a plan for user drop-out, i.e how to pull them back into the system. We have identified the player loop, as described, but also the design loop. To find out if the feedback loop is working, there should exist a loop that tests the feedback loop, which analyzes the result and later can be used for optimizing.

Gamification can not be adopted in organizations that are not confident in their core business. The core business is the reason for the company's existence, and therefore has to be highly valued to stay the same even when adding side-things in the enterprise, e.g gamification. Gamification is not supposed to control the company's' core business, and is not supposed to make anything different, other than work as a complement towards reaching business goals. Companies needs to assure themselves that their core business is working, the business are doing good, they are good at what they do, and they do not need to consider to completely change their core in order for the company to survive.

In our opinion, startup companies, or mainly unstructured companies, needs to be careful when considering adopting gamification. We do believe gamification needs a solid foundation to be able to work as desired, and start-up companies need time to find their individual way of doing business before considering this. The core business might still shift between different ones and their in-house processes might still be a bit unstructured. It is normal for a new started company to try different ways of working, try different ways of optimizing their processes and find what works for them. However, this is not an appropriate environment for gamification. We do believe businesses who are adopting gamification in this state are in the

danger-zone to let gamification take over the core business. That they may lose themselves on the way. Gamification can not be adopted to enhance performance before the company has considered other factors. A startup company may not even need gamification in order to enhance performance. The performance may come naturally over time when the employee's starting to have a nice routine going, and the company starts to settle. It is important to understand how gamification is supposed to help reaching business goals, but it is not supposed to act as the core of the company's' existence. Gamification is not supposed to take over the business, and the company applying this needs to consider if the company is mature enough for it. We want to highlight that we do not consider gamification to be in any way impossible to implement in immature organizations, but we do believe that a solid foundation is to prefer. There is a lot happening in new organizations or organizations that is going through changes, and the employees do not need a complementary system when a lot of other things are happening. They need to be focused and feel motivated that gamification is introduced at the workplace, and not consider it as "another thing to worry about".

How do you know if the gamification is successful or not? As we stated in the introduction of this thesis, gamification is a rather abstract concept, this partly because it involves the components of human behavior and psychology. We believe this is the reason why gamification is difficult to evaluate, and why we had a hard time finding literature concerning this part. The result of our study showed that it's important to use Key Performance Indicators, in order to create some concrete metrics that can show the management the value of gamification. These KPIs can be used to measure different aspects and prove whether the business goals are fulfilled or not, hence if gamification improving the business processes. The metrics can be e.g. number of users performing a certain action, productivity increased, sales increased or number of active users. The KPIs needs to be measured before and after the gamification implementation to monitor the progress. The foundation of gamification is the motivation of the users, and motivation is highly complex due to the various reasons, such as environment, experience, skills etc. Thus, the motivational aspect have to be calibrated and altered, to keep the users engaged in the gamified system. The evaluation and adaption of a gamified system is important for success, because how will you otherwise know if the system is creating value for your business? If there are no tools to support such an important factor for successful gamification, it is a significant reason why many will fail.

7.2 How can enterprises sustainably engage and motivate their staff through gamification?

The alarming numbers worldwide of decreasing employee motivational levels have caused high pressure on the management level in organizations. The numbers are concerning and it becomes clearer by the day, how important it is to keep the motivation and engagement high in the workforce. This in order to increase effectivity and performance, and in turn enhance revenue, competitiveness, and achieve business goals. The workplace has changed a lot in the recent years and employees are to a larger extent expected to engage in their working places' business goals. Since the digitalization began, it exists a far more competitive environment for companies now more than ever before. Companies needs to perform more effectively and under a much higher pressure in order to keep up with customer demands and stay

competitive in their fields. This pressure unfortunately makes companies desperate and in need for quick-fixes to enhance performance, and gamification seems to be vulnerable to act as one of those solutions.

In order to enhance employee effectiveness and performance, employee motivation and engagement seems to be the key to achieve this. We consider happy employees to be effective employees, and the management needs to take this into consideration when demanding enhanced performance from them. We do observe a pattern that the staff is a very important part to include in a gamification implementation to succeed. The employee's' involvement in the process is crucial to successful enterprise gamification and sustainable employee motivation. Gamification is way too complicated to simply assume that the staff will buy it just because they should be motivated by fun elements. It is important to understand the fact that the employees represents many different player types, with different motivational requirements, behaviors and feelings. This has to be taken into consideration when designing an enterprise gamification system. There seems to be a common mistake that the management either forgets about the users completely, or presumes that they know their employees well enough to make decisions for them. Managements across organizations that considers adopting gamification needs to understand their role in motivating their employees. This understanding is highly important. They have a greater chance to successfully motivate the staff by taking advantage of their strengths, put the right people in the right places, and create an environments where barriers are removed, where employees can enhance their strengths and learn new things. The management needs to understand that it cannot work as a persuasive technology. If the structures in the organizations are very strict and does not allow these things, then gamification is not suitable in that specific organization. Gamification needs a proper environment to work in, and in an environment where the employees are not supposed to develop themselves, learn new things and enhance their strengths, it becomes a conflict between what gamification is supposed to achieve and what the structures allows. The management needs to be completely involved with the implementation and be ready to create the structures needed for the employees to shine.

It could be a costly mistake being naïve and exclude the users from the gamification process. If the management believes that gamification will make the users motivated automatically, it will soon backfire. The users will not buy it and will either perform the same as before, or get frustrated and perform less effectively as a result. We do consider the employee's involvement to be crucial for successful gamification. This since they are the ones who will use the system in their daily work, and therefore needs to be motivated by it. If the employees are not involved in the gamification process, they may feel that the management does not care about the underlying issues to their decreasing motivation. That their superiors simply tries to add a little fun into the mix and that that should take care of all the problems. It is never that simple and the staff will not buy it, because gamification may not even be the proper solution to the underlying problems.

Naturally, gamification cannot take every single user into consideration, especially in larger organizations. However, there seems to be ways to at least make an effort to define the player types in the workforce, and that is definitely better than ignoring this part all together. Marczewski's (2015) inspirational cards is one way, and having a dialogue with the employees

is another. In either way, in the end some assumptions has to be made. Even if dialogues are conducted with the employees, they may not have the self-perception or reflected over how they become motivated or what type of game elements they would prefer. They may even answer what they think is the "correct" answer, e.g. say that they have an internal motivation to perform, when they actually would prefer external rewards.

There is not only the issue of defining what player types the employees are today, but also what behaviors the implementation of gamification should encourage. Based on the research done in this thesis, we do consider defining the player types as an highly important part in understanding the employees, and how and why they would be motivated by different things. It is important in the process of involving the users and making them feel like they matter. This will create a much more beneficial starting position when implementing the gamification system. This because the employees know that they have been a part of the process and can expect the system to include elements that motivates and engages them. The gamification system has to provide an environment where the employees will be able to enhance their strengths, and where their motivating forces will be capitalized upon. If the management has defined these things, the gamified experience will have a much higher chance to succeed and motivate the employees in the long run.

The player journey is another important part to carefully take into consideration when implementing enterprise gamification. This is important due to its significance in "catching" the user and keep the user motivated in the long run. It is not enough that the employees have room to enhance their strengths and feels motivated by the system. That is only a small part of the whole issue to motivate. The player journey focuses on keeping the user motivated and that is just as important as developing the system based on the employee's motivational force. In order for the user to reach the system's' goal, to support the user towards an expert-level, there has to be more mechanisms controlling the experience as the users will have high's and low's in their motivational levels. The system has to balance things as rewards, progression and challenges, in order for the user to stay motivated and behave in desired ways when using the system. This part of gamification is inspired from the basics in game-design, and gamification has its similarities with games concerning these issues. If these factors mentioned above are not balanced and adjusted after the user's position on the learning-curve, the user will lose its motivation because the tasks may be too difficult and rewards not given when most needed. We do believe these factors to be crucial in gamification. This because of the importance that the users reach an expert-level in the system, i.e. uses the system by intrinsic motivation. Expert-level users will motivate others and help others understand the benefits from using the system. This is important since gamified applications is based on a social environment, and the importance of others using it will determine if others will be interested in getting onboard. The influence from other users will automatically be important in the social environment. If someone or many individuals reach expert-level and can motivate others to use it, we have a pleasant ongoing loop where people will reach expert-level frequently. This creates a favorable environment where external rewards will not be as important, and the employees keep using the system because it simply gives them an internal satisfaction.

Organizations may introduce external rewards, e.g. monetary rewards, to enhance employee motivation and performance. We observed this to be a common way in organizations to motivate employees and making them more effective. We do believe external rewards to be very effective motivating factors and definitely a way to enhance performance. However, we question how it would enhance motivation and performance in the long run. The motivation will be shallow and tasks only motivating to do because of a physical reward at the finish-line. The reward will be the focus and not the task itself. We believe this can create situations where tasks are carelessly completed because of the reward, where one only focus on the completion and not the quality. In service contexts, where quality (i.e. satisfied customers) beats quantity (i.e. helping as many as possible) this could be dangerous to the company's reputation if the quality of service towards the customer is negatively affected. The task may have been completed otherwise and with higher quality, if the external reward was not present. Moreover, the motivational level will definitely decline after the reward is given and there is no point in performing on the same level anymore.

Humans may be fairly effective by nature and enjoy work. However, humans are also slaves under a system that is controlled by basal needs, feelings and energy-levels, and it is hard to feel motivated when those factors are not on point. There is nothing strange about that, it is simply how humans function. We are all having bad days from time to time, and it is important to include this fact when trying to enhance performance through gamification. There are ways to motivate staff even on their bad days. It is just a matter of how you do it. It may not be the most suitable time to launch a selling competition when the staff are unhappy and drained out of energy. Although, it may be an appropriate time for the staff to focus on administrative tasks, as suggested by I2 (2016). By taking these factors into account, one can actually enhance performance even when the staff are on a low motivational level. This way the staff may perform on a higher low-level on their bad days, while they would have performed on a substantially lower level if forced into a competition or stressful environment. However, one needs to consider what types of workforce one are dealing with. If the staff do desire selling competitions no matter what, then that is obviously the way to go. What we want to highlight is the importance of being able to tune tasks and performance-demands after the employee's motivational level. Simply observe the staff as the humans they are, and not as machines. Naturally, one can not operate an organization completely relying on this. The staff are employed to perform their tasks and that is normally the end of discussion. The staff can not bring the personal issues into the workplace, it is as simple as that. However, we do believe that if an organization do consider to use gamification, that they do care about the employees' well-being and motivation at least more than the average organization. If they at least are open to the possibility of tuning tasks and accepts the theory behind it, then we are well on the way towards success and motivated employees.

External rewards seem to have a negative impact on creativity. This for the same reason as stated earlier, the focus is shifted from the task onto the reward. Moreover, external rewards can create a stressed environment where people feel a pressure that they need to perform and can not fail. We believe that this in turn can give rise to great anxiety and decreasing motivation, where one may feel incapacity to perform at the requested level. In situations

where an external reward is earned by a team effort, those feelings can become even greater when one feels that the whole team is being dragged down by a poor performance.

There seems to be situations where external rewards is the one and only way to motivate. Line work is a rather monotone process which may demand either none or a small dose of creativity. The work may not be any more satisfying in itself than receiving a salary at the end of the month. This could refer to e.g. industry workers. In the industry, employees may not feel an inner motivation to work because their job is to "behave as machines", to simply produce. They earn their salary and that is the motivation to work. In these domains external rewards may be the best, if not the only, way to go to enhance the employees to perform more effectively. However, external rewards are dangerous in the way that once used they could give rise to a reward-loop. The employees may need external rewards to feel motivated at all, and see no point in working more efficiently when there is no special bonus coming out of it. We believe that external rewards needs to be used carefully and there has to be a proper reason behind the introduction of them. Organizations who considers using external rewards needs to think carefully about if they are necessary or not, and how to handle a decreasing performance level. They need to question if it is worth the risk of falling into a reward-loop and what types of employees the workforce consists of. We do believe that the employees' loyalty to their company, their level of ambition, and how high the probability is that they will fall back onto the same performance-level afterwards (i.e. not lower), are factors that organizations needs to consider before introducing external rewards.

An important factor considering external rewards which we want to highlight is the *Overjustification Effect*. External rewards may cause a decreasing productivity level from already ambitious employees who already have high internal motivation. This because they are always performing the best they can, and for them to be exposed to higher pressure can have severe consequences to their motivational level. We do believe that employees who are motivated by internal drives, e.g. performance-driven people, will feel inadequate and hopelessness when being exposed to rewards they did not need for performance in the first place. Those individuals also needs to be considered in this issue. These people may appreciate unexpected rewards or positive feedback to make them feel appreciated. Then they know that they are rewarded for their average performance level.

A large part of gamification is the competition part of it, including its leaderboards and selling-competitions. Gamification is often observed as a competition application which will enhance motivation simply by providing a competition environment, and the employees will perform better when competing against each other or themselves. There seems to be an perception that the competition part of enterprise gamification is enough to create Return of Investment (ROI). This is an naïve assumption to make. It is not certain that those who are sellers at a company necessarily enjoys selling competitions. One can not simply make the assumption that applying a competitive environment will increase performance. In worst cases it could create conflicts where the competition is performed at the expense of cooperation, and create a poor group feeling. It is important to be aware of the consequences. To understand how it possibly can create a poor work environment if it is not defined how the competition elements should provide as a positive environment to the employees.

If considering to launch a selling-competition, it is important to carefully plan for it and how it is supposed to be motivating to the employees. For example, if the competition is performed on every office worldwide and the leaderboard consists of people from several different countries, will that really be motivating to the employees? Will it be motivating for the employees at the office in Sweden to compete against people at the office in China, which they have never met, and may never meet? That leaderboard may not be as motivating as a leaderboard consisting of the people at the local office or department, who they do meet every day.

7.3 Development of an enterprise gamification framework

In this section we present our own development of an Enterprise Gamification Evaluation Framework (Figure 22), shortened EGE-Framework. The EGE-Framework is based on our analysis and discussion on successful enterprise gamification and sustainable employee motivation. The patterns, relationships and cause-and-effect connections we have observed are visually represented in our framework.

The framework is presented on the next page

Figure 22: Our suggestion of an Enterprise Gamification Evaluation Framework.

If we begin looking at the core of the framework, the first important factor we identified as a crucial aspect in successful gamification is the *User Motivation*. However, the concept motivation is complicated and as shown in the framework it consists of several different ingredients to take into consideration. The ingredients in the *User Motivation* circle are the concepts we identified as connected to user motivation. Those parts are the ones that needs consideration in order to successfully motivate the users according to their preferences, emotions, backgrounds, among other things.

Throughout the study, it has become clear to us that to successfully gamify enterprise processes, one needs to favour the user's goals as well as the organizational goals. Therefore, the second and equally as important circle represents *Value Creation*. In order to convince the management that gamification is something to invest in, and to conduct a sustainable organization, enterprise gamification has to create revenue and give something back to the organization. The organization may value their employees well-being and motivation to work, but if the revenue does not increase from it, it will simply not be attractive to implement. Enhanced employee motivation is not worth anything if the company goes bankrupt.

The User Motivation circle and the Value Creation circle are important in themselves, but they are also important together, because they need to merge to come up with appropriate solutions for each specific organization. The only way to succeed with enterprise gamification is for the two circles to meet in the middle and define a couple of things. The problems, consequences, possible solutions and appropriate game elements can not be defined by the management only, and neither by the users only. The management worries about ROI, business goals, requested behaviors and performance, among others. The users may not even consider these factors when suggesting possible solutions, they will probably think only from their own perspective and for their own winning. However, they will contribute with highly valuable information concerning their motivational requirements, what they want the system to contribute with, and what is possible for them to actually use in their daily work. This is the core that creates the foundation for a gamification systems' development. Gamification has to profit from the user motivation in certain kinds of ways. Thus, the key performance indicators needs to be defined, so that they can later on be measured, and therefore generate an understanding on how the gamification is going. These two factors are intertwined, for they both need to favour the same organizational problem and solution. The user motivation needs to contribute to the organization problem, as much as the value creation, i.e. the organizational goals. Therefore, the solution have to favour the user and organizational goals. The balance between the two is imperative, for you cannot succeed with gamification if you don't motivate the users and neither if the gamification does not create business value.

The result of our study showed that it's difficult to succeed with gamification at the first try, due to the complex nature of gamification. Hence it is important to acknowledge that the implementation is going to need some calibration. We have therefore incorporated an on-going evaluation loop in our framework. During the evaluation, the defined KPIs and other metrics will be measured. Furthermore, it evaluates if the performance has increased or decreased, if the behaviors have changed in a desired direction, if the users are engaged in the

system, how the users motivational levels are doing, and if they have developed in any way by using the system, e.g. learned new things or getting better at something. The evaluation of these factors can then determine what type of changes that needs to be made. Then, the process frequently starts all over again and calibration will be made according to the result of the evaluation. We want to highlight that the order of the evaluation of the factors is irrelevant, but the tuning always comes last.

The core of the framework and the surrounding evaluation-loop is covered by the concept business objectives. This because an enterprise gamification system constantly influences the organization's' business objectives, if implemented carefully and correct. As we have discussed earlier, gamification needs to be considered an integrated part in the organization in order for it to assist towards achieving business objectives. Therefore, gamification can not work as a distinct part of the organization and will automatically influence if the business objectives are reached or not. For example, if a business objective is to reach 5 million in sales by the end of the year, the employee's' performance and motivational levels will be highly involved in this objective.

The core, the on-going surrounding evaluation loop, and the whole framework covered by its influence on business objectives, will then result in a positive on-going loop of new or improved enterprise gamification.

8. Limitations of Study

This study was carefully planned and performed, but there are limitations and shortcomings in this thesis we want to emphasize.

First of all, the interviews where of a qualitative approach and consisted of only three people. As noted in chapter 3. *Research Methodology*, qualitative interviews are not suppose to be too structured and it is the respondents who decides how to interpret the questions. We prepared the interviews carefully and aimed to focus on only one theme at a time during the interviews. However, since gamification covers many fields it was hard, not only for us but also the respondents, to not slide onto side-tracks when discussing a theme. For this reason, it occurs sections in the interview result where a respondent did not have a distinct answer we could use on a specific theme.

Second, we could have interviewed more people. We would have achieved more authentic result if we had interviewed organizations that have adopted gamification. The study would have benefitted from interviewing companies on their experiences of implementing gamification, and also employees who uses gamified systems at work, about motivation and how gamification have enhanced or decreased it. The reason for not doing this was because we found it difficult to come across organizations who have adopted enterprise gamification. We do believe that many organizations use social intranets and gamified solutions in-house, but not necessarily uses the term gamification as a definition for it. However, information about house-structures is obviously not public and therefore it is hard for us to find those organizations. We also affirmed that the literature study was to be the major part of the study, and therefore we decided that three interviews could be considered enough in this particular study.

Third, there seems to be few cases performed concerning enterprise gamification. In order for us to find proper cases to study, we needed to search for cases that have studied factors which gamification is developed upon, e.g. user participation and rewards. Therefore, the lack of research may have caused that we have missed important cases that could have been helpful in this thesis, since it was difficult to know what to search for in order for it to be helpful in this study.

Fourth, since gamification as an academic topic is still young, there are limited amounts of research available. This spawns a situation where a number of gamification-pioneers has become quite famous in the gamification field when they have presented their theories and models. These people acts as inspirations to many people in the field, and as an effect of this our patterns and agreements we observe in our analysis could be a coincidence because our sources may be inspired by the same references. This is not necessarily a shortcoming, but we do want to emphasize the possibility of this. However, we do believe that people would not be inspired by pioneers if it was not well-developed models and convincing statements published.

Fifth, when we defined our themes to mainly focus on in this study, there is a possibility that we have missed one or a few themes. This basically because there is always a possibility that we have missed some important articles. However, we have made a proper research and were very dedicated to learn about the field of study. We spent a lot of time reading as much research as possible, listened to podcasts, and listened to presentations and interviews. Therefore, we do believe that we have gained a proper understanding of the gamification-field, what themes that are recurring in the literature and why they are important. Moreover, since gamification covers many fields it would have been difficult to try to focus on everything at once. We are confident in our strategy and believe our framework covers many of the most important factors in enterprise gamification.

Finally, our developed framework has not been tested or reviewed. The framework is our suggestion on an enterprise gamification framework based on the research done in this study. We aim for it to act as a foundation in order to be further developed in future research. The framework is the representation of our study's result but it can not be considered ready to be applied in a real-life context.

9. Conclusion

To sum up, the purpose of this report was to identify which factors that result in successful gamification in enterprise settings, and also how to sustainably motivate and engage employees through gamification. The answers to these questions was to result in our own suggestion of an enterprise gamification framework.

In this report we explored the gamification field and focused mainly on how to use it in enterprise contexts. We did identify success factors concerning enterprise gamification and sustainable employee motivation, which was presented in sections 7.1 and 7.2. Based on our analysis and discussion we developed our own enterprise gamification framework, presented in section 7.3. In this study we presented how enterprises can benefit from using gamification

to enhance performance and keep their employees motivated. We also presented gamification critique and possible pitfalls to consider before adopting it.

For further research, there are substantial issues in the enterprise gamification field such as non sustainable frameworks, uncertainty on the matter if gamification is effective and how to sustainably motivate users through the concept. Enterprise gamification is in huge need of more research, and especially more long term case studies needs to be made in order to develop the concept and make enterprises sure of its effects. Furthermore, we believe gamification evaluation-tools are in need of longer testing periods in order to define their strengths and weaknesses and develop them further. We did identify evaluation to be a significant part in successful enterprise gamification, but there is definitely a need for more research on that part in order to achieve high-quality evaluation of gamified applications.

Finally, for future research we would suggest testing of our EGE-Framework in enterprise contexts, or develop it further or reviewing it. We would like it to be developed over time and for it to be a part in achieving a sustainable enterprise gamification framework in the future.

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